



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 149844**

**TO: Veronica Faison**

**Location: REM 9D28**

**Art Unit : 1755**

**April 18, 2005**

**Case Serial Number: 10691255**

**From: Kathleen Fuller**

**Location: EIC 1700**

**REMSSEN 4B28**

**Phone: 571/272-2505**

**Kathleen.Fuller@uspto.gov**

### **Search Notes**

I did do a Casreact structure search with the starting materials of the tetra-amide. There were only 9 references and they were not useful. I then did a text search. One of the applicants turned up a lot.

In the text search tetra-amide appears in all the references. However, in the WPIX (derwent file) the term tetra-amide is sometimes in the special indexing which doesn't show in the printout. I also searched European Patful and had to limit my printout to the bib and abstract. In all of the 21 patents somewhere in the fulltext tetra-amide appears within 6 words of ink and within 6 words of process, etc.



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

**Comments:**

Drop off or send completed forms to EIC1700 REMSEN 4B28



**Mellerson, Kendra**

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149844

**From:** Faison, Veronica

**Sent:** Monday, April 04, 2005 5:04 PM

**To:** STIC-EIC1700

**Subject:** 10/691,255

Please do a text search of claims 55-75 of serial number 10/691,255. Thank you.

*Veronica F. Faison*

*Patent Examiner*

*Art Unit 1755*

*571-272-1366*

*REM 9D28*

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf - Cnt

APR 5 RECD

Pat. & T.M. Office

4/5/05

*Reaction database*

=> file casre

FILE 'CASREACT' ENTERED AT 16:31:10 ON 15 APR 2005  
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FILE CONTENT:1840 - 10 Apr 2005 VOL 142 ISS 15

\*\*\*\*\*  
\*  
\* CASREACT now has more than 8 million reactions \*  
\*  
\*\*\*\*\*

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L56 82 SEA FILE=WPIX ABB=ON (L42 OR L43 OR L44 OR L45)  
L61 132 SEA FILE=EPFULL ABB=ON (L42 OR L43 OR L44 OR L45)  
L62 81 SEA FILE=EPFULL ABB=ON L61(L)INK?  
L64 81 SEA FILE=EPFULL ABB=ON L56 AND INK?  
L65 81 SEA FILE=EPFULL ABB=ON L62 OR L64

=> => file casrea

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FILE CONTENT:1840 - 10 Apr 2005 VOL 142 ISS 15

\*\*\*\*\*  
\*  
\* CASREACT now has more than 8 million reactions \*  
\*  
\*\*\*\*\*

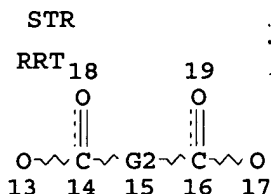
Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance

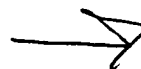
KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

identification.

=> d que l34  
L32

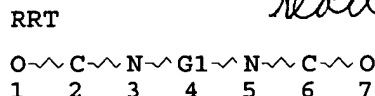


*reactant/reagent 1*



*any product*

Ak^Cb  
@8 @9



*reactant & reagent 2*

Ak^Hy^Ak  
@10 11 @12

VAR G1=AK/CB/8-3 9-5/10-3 12-5

VAR G2=AK/CB/8-14 9-16

NODE ATTRIBUTES:

CONNECT IS E1 RC AT 1

CONNECT IS E2 RC AT 3

CONNECT IS E2 RC AT 6

CONNECT IS E1 RC AT 7

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE

L34 9 SEA FILE=CASREACT SSS FUL L32 ( 64 REACTIONS)

*9 CA references with 64 reactions.*

=> d l34 bib abs fcrd 1-9

*No good answers*

L34 ANSWER 1 OF 9 CASREACT COPYRIGHT 2005 ACS on STN

AN 139:395581 CASREACT

TI Helical supramolecular aggregates based on ureidopyrimidinone quadruple hydrogen bonding

AU Hirschberg, J. H. K. Ky; Koevoets, Rolf A.; Sijbesma, Rint P.; Meijer, E. W.

CS Laboratory of Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.

SO Chemistry--A European Journal (2003), 9(17), 4222-4231

CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Mono- and bifunctional compds. I-III, based on the ureido pyrimidinone quadruple H bonding unit, were prepared to study the mode of aggregation of these compds. in the bulk and in solution. Compds. I-III exhibit thermotropic liquid crystalline properties, as evidenced by DSC and optical polarization microscopy. The presence of an ordered hexagonal discotic (Dho) phase of I (R = C12H25) was confirmed by x-ray diffraction on an aligned sample. In chloroform, the bifunctional compds. form cyclic dimers at millimolar concns., and these dimers exist in equilibrium with linear species above a critical concentration, which may be from 6 mM to >260 mM, depending on the structure of the spacer. CD measurements in chloroform did not show a Cotton effect. Dodecane solns. of compds. II [n = 5, R = Q(IV)], II [n = 6, R = Q(V)], and III [R = Q(VI)] display a Cotton effect at the absorption band of the phenyl-pyrimidinone unit. Amplification of chirality was observed in mixts. of III (R = C12H25) and VI, but not in mixts. of II (n = 6, R = C12H25) and II (n = 6, R = Q), indicating that III (R = C12H25) and VI form mixed polymeric aggregates with a helical architecture in dodecane solution, whereas II (n = 6, R = C12H25) and II (n = 6, R = Q) do not. The Cotton effect is lost upon increasing the temperature. Half of the helicity is lost at 25° for IV and at 60° for V, suggesting that IV, bearing the shorter spacer, forms less stable columns than V. Compound VI losses half of its helicity at 45°. Compds. I (R = Q), II (n = 7, R = Q), and II (n = 8, R = Q) do not exhibit helical organization, as evidenced by the absence of Cotton effects.

RX(28) OF 42 - REACTION DIAGRAM NOT AVAILABLE

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 2 OF 9 CASREACT COPYRIGHT 2005 ACS on STN

AN 139:381695 CASREACT

TI Pentopyranosyl oligonucleotide systems: Communication Number 13: The  $\alpha$ -L-arabinopyranosyl-(4'→2')-oligonucleotide system: Synthesis and pairing properties

AU Jungmann, Oliver; Beier, Markus; Luther, Anatol; Huynh, Hoan K.; Ebert, Marc-Olivier; Jaun, Bernhard; Krishnamurthy, Ramanarayanan; Eschenmoser, Albert

CS The Skaggs Institute for Chemical Biology, The Scripps Research Institute (TSRI), La Jolla, CA, 92037, USA

SO Helvetica Chimica Acta (2003), 86(5), 1259-1308

CODEN: HCACAV; ISSN: 0018-019X

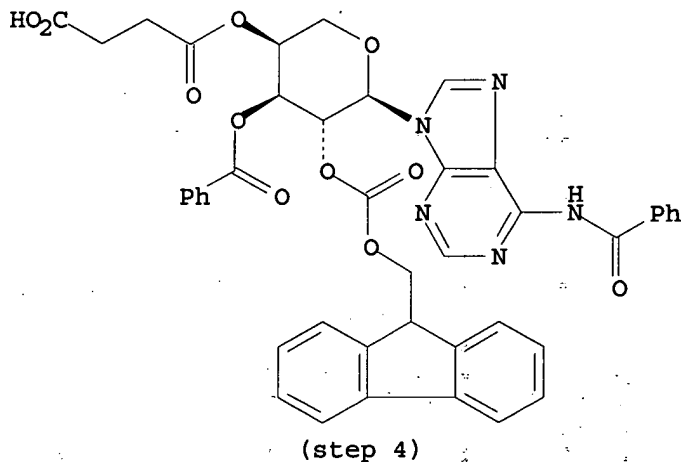
PB Verlag Helvetica Chimica Acta

DT Journal

LA English

AB Among the members of a family of diastereoisomeric pentopyranosyl-(4'→2')-oligonucleotide systems derived from D-ribose, D-xylose, L-lyxose, and L-arabinose, the  $\alpha$ -arabinopyranosyl system shows by far the strongest Watson-Crick base pairing. The system is, in fact, one of the strongest oligonucleotide-type base-pairing systems known. It undergoes efficient cross-pairing with all the other members of the pentopyranosyl family, but not with RNA and DNA. The paper describes the synthesis and pairing of the properties of  $\alpha$ -L-arabinopyranosyl-(4'→2')-oligonucleotides.

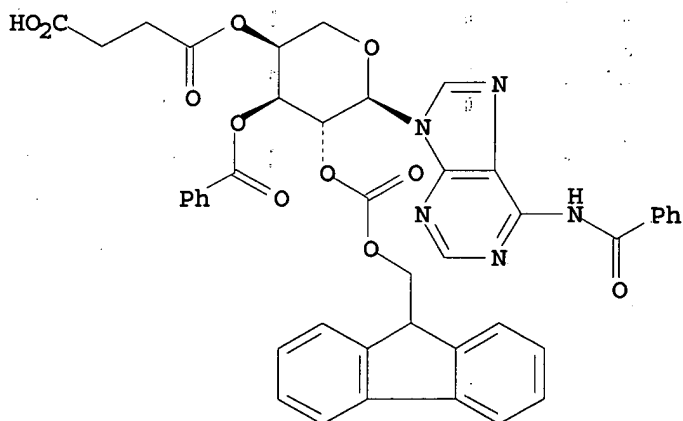
RX (36) OF 332



RX (36) OF 332

1. Diimidazolyl ketone,  
CH<sub>2</sub>Cl<sub>2</sub>
2. R:13093-04-4,  
CH<sub>2</sub>Cl<sub>2</sub>
4. N-Methylmorpholine, →  
R:105429-60-5,  
MeCN
6. PhOCH<sub>2</sub>COCl, Ac<sub>2</sub>O,  
THF, Pyridine

RX (36) OF 332



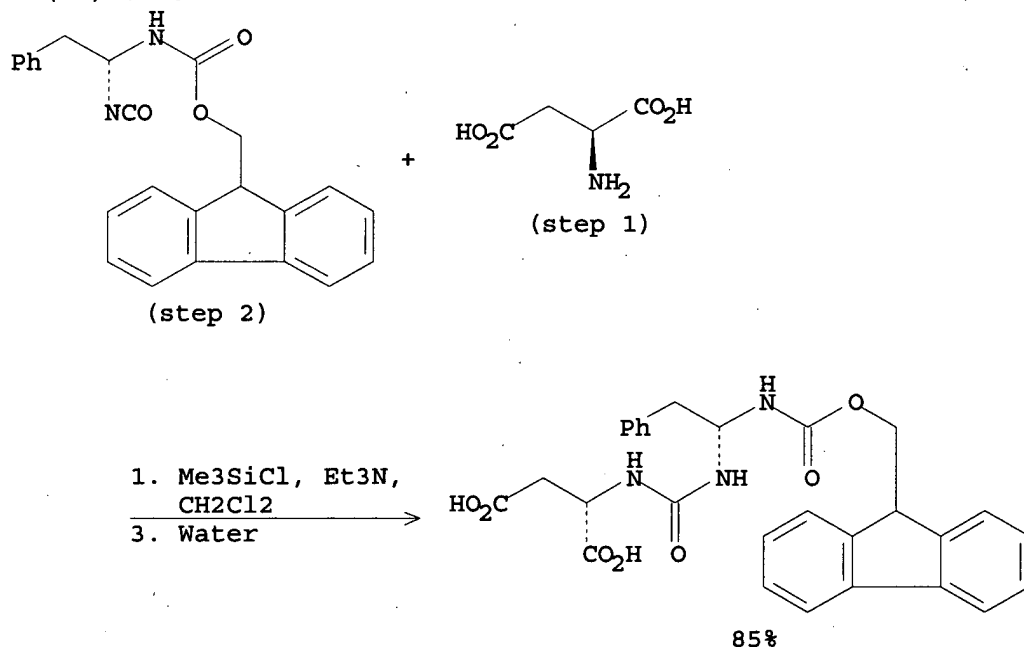
NOTE: solid-supported reaction, first stage is attachment to CPG ,  
third and fifth stage were washing

RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

L34 ANSWER 3 OF 9 CASREACT COPYRIGHT 2005 ACS on STN  
 AN 139:307995 CASREACT  
 TI Isocyanates of N $\alpha$ -[(9-Fluorenylmethyl)oxy]carbonyl Amino Acids:  
 Synthesis, Isolation, Characterization, and Application to the Efficient  
 Synthesis of Urea Peptidomimetics  
 AU Patil, Basanagoud S.; Vasanthakumar, Ganga-Ramu; Babu, Vommina V. Suresh  
 CS Department of Studies in Chemistry, Bangalore University, Bangalore, 560  
 001, India  
 SO Journal of Organic Chemistry (2003), 68(19), 7274-7280  
 CODEN: JOCEAH; ISSN: 0022-3263  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB The Curtius rearrangement of Fmoc-amino acid azides FmocNHCH(R)CON<sub>3</sub> [R =  
 H, Me, CHMe<sub>2</sub>, CH<sub>2</sub>CHMe<sub>2</sub>, CH(Me)Et, CH<sub>2</sub>Ph, Ph, CH<sub>2</sub>CO<sub>2</sub>Bu-t, (CH<sub>2</sub>)<sub>2</sub>CO<sub>2</sub>Bu-t,  
 CH<sub>2</sub>OBu-t, CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>(OBu-t)-4, CH<sub>2</sub>OCH<sub>2</sub>Ph, (CH<sub>2</sub>)<sub>4</sub>NHBoc] was carried out in  
 toluene by refluxing the solution for 30 min. The resulting isocyanates  
 FmocNHCH(R)NCO have been isolated as crystalline solids and are fully  
 characterized by IR, <sup>1</sup>H NMR, <sup>13</sup>C NMR, and mass spectra. They are found to  
 be stable for several months when stored at 4°. The rearrangement  
 of Fmoc-amino acid azides in toluene to isocyanates under microwave  
 irradiation was also accomplished. The direct exposure of solid azides to  
 microwaves for 60 s led to the completion of the rearrangement. The  
 resulting isocyanates, after recrystn., were found to be anal. pure. The  
 scale-up of the rearrangement, under microwave irradiation as tested up to  
 0.75 mol, posed no problems and led to the isolation of the isocyanates in  
 91-96% yield. The utility of the above isocyanates as building blocks in  
 the synthesis of urea peptides FmocNHCH(R)NHCONHCH(R<sub>1</sub>)CO<sub>2</sub>Y (R<sub>1</sub> = CH<sub>2</sub>CHMe<sub>2</sub>,  
 H, CH<sub>2</sub>Ph, CH<sub>2</sub>OCH<sub>2</sub>Ph; Y = Me, CH<sub>2</sub>Ph) was demonstrated.

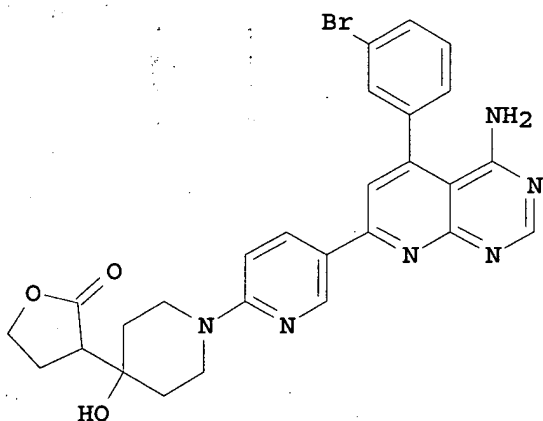
RX(28) OF 52





RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

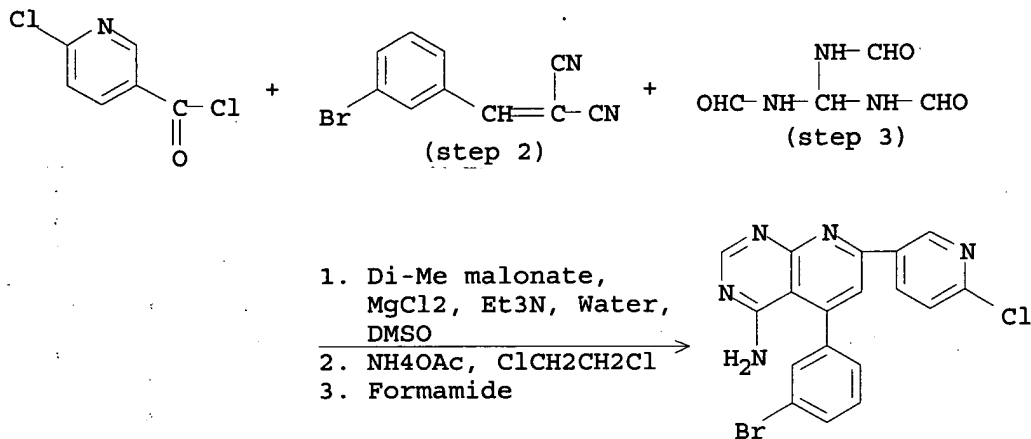
L34 ANSWER 4 OF 9 CASREACT COPYRIGHT 2005 ACS on STN  
AN 139:301292 CASREACT  
TI Adenosine kinase inhibitors: polar 7-Substituent of pyridopyrimidine derivatives improving their locomotor selectivity  
AU Zheng, Guo Zhu; Mao, Yue; Lee, Chih-Hung; Pratt, John K.; Koenig, John R.; Perner, Richard J.; Cowart, Marlon D.; Gfesser, Gregory A.; McGaraughty, Steve; Chu, Katharine L.; Zhu, Chang; Yu, Haixia; Kohlhaas, Kathy; Alexander, Karen M.; Wismer, Carol T.; Mikusa, Joseph; Jarvis, Michael F.; Kowaluk, Elizabeth A.; Stewart, Andrew O.  
CS Neuroscience Research, Abbott Laboratories, Abbott Park, IL, 60064-6115, USA  
SO Bioorganic & Medicinal Chemistry Letters (2003), 13(18), 3041-3044  
CODEN: BMCLE8; ISSN: 0960-894X  
PB Elsevier Science B.V.  
DT Journal  
LA English  
GI



I

AB We have discovered that polar 7-substituents of pyridopyrimidine derivs. affect not only whole cell AK inhibitory potency, but also selectivity in causing locomotor side effects in vivo animal models. We have identified compound I which has potent whole cell AK inhibitory potency, analgesic activity and minimal reduction of locomotor activity.

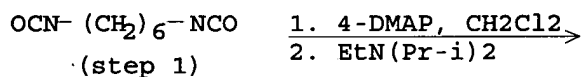
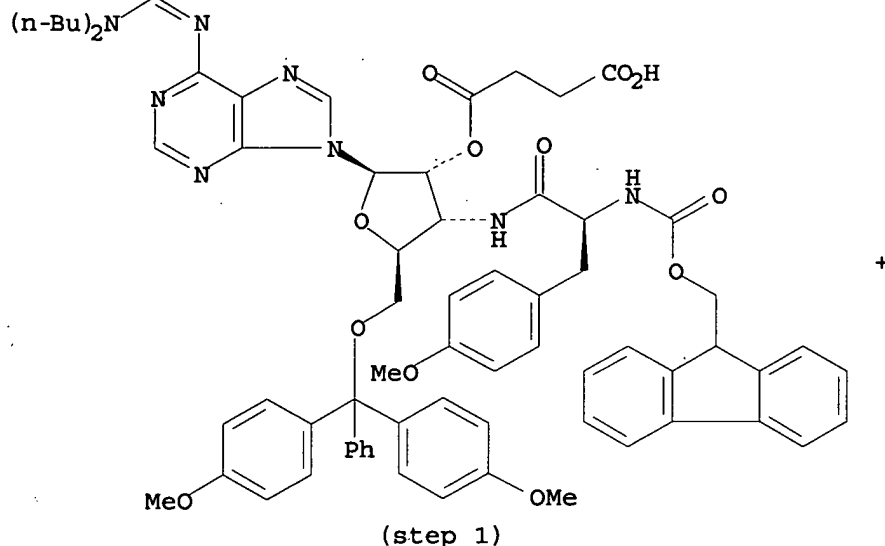
RX(48) OF 111 - 3 STEPS



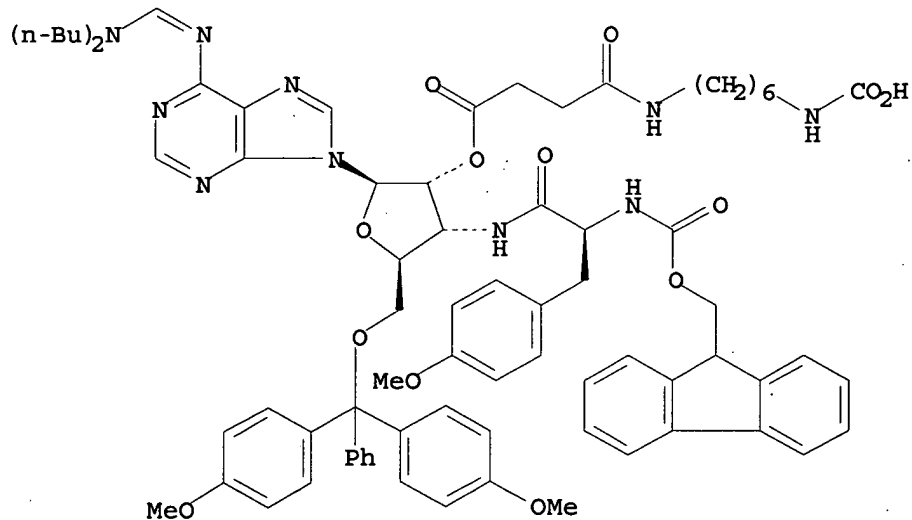
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 5 OF 9 CASREACT COPYRIGHT 2005 ACS on STN  
 AN 139:180289 CASREACT  
 TI High-Yield Immobilization of a Puromycin Analogue for the Solid Support  
 Synthesis of Aminoacyl-tRNA Fragments  
 AU Nguyen-Trung, Nhat Quang; Terenzi, Silvia; Scherer, Gerd; Strazewski,  
 Peter  
 CS Institute of Organic Chemistry, University of Basel, Basel, CH-4056,  
 Switz.  
 SO Organic Letters (2003), 5(15), 2603-2606  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB An efficient procedure for the immobilization of 3'-deoxy-3'-(O-  
 methyltyrosyl)aminoadenosine was developed. A poly(ethylene  
 glycol)-derived diacid linker/spacer was attached to aminomethyl  
 polystyrene. Coupling of the 2'-hydroxy instead of the 2'-O-succinylated  
 ribonucleoside resulted in high immobilization yields (over 80%) and  
 allowed for the recovery of valuable unreacted material. This specific  
 procedure should be applicable to other ribonucleosides containing a bulky  
 modification at the 3'-position and can be used for the stepwise  
 construction of 3'-aminoacyl- or 3'-peptidyl-RNA conjugates.

RX(7) OF 19



RX(7) OF 19



NOTE: second stage is attachment to LCAA-CPG resin

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L34 ANSWER 6 OF 9 CASREACT COPYRIGHT 2005 ACS on STN

AN 135:153103 CASREACT

TI Synthesis and Activities of Pyoverdine-Quinolone Adducts: A Prospective  
Approach to a Specific Therapy Against Pseudomonas aeruginosa

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

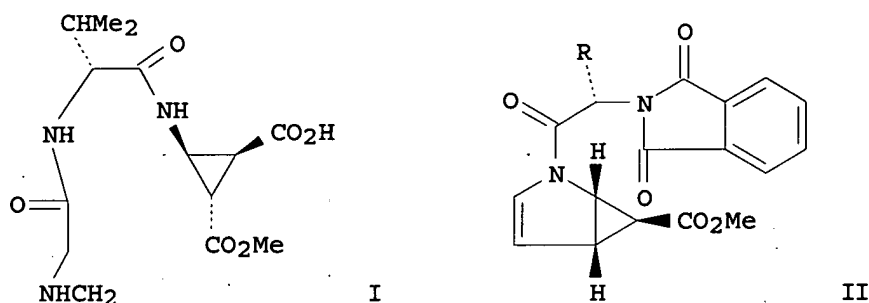
AU Hennard, Christophe; Truong, Que Chi; Desnottes, Jean-Francois; Paris, Jean-Marc; Moreau, Nicole J.; Abdallah, Mohamed A.  
 CS Chimie Microbienne Departement des Recepteurs et Proteines Membranaires, UPR CNRS 9050, Ecole Superieure de Biotechnologie de Strasbourg, Illkirch, 67400, Fr.  
 SO Journal of Medicinal Chemistry (2001), 44(13), 2139-2151  
 CODEN: JMCMAR; ISSN: 0022-2623  
 PB American Chemical Society  
 DT Journal  
 LA English  
 AB *Pseudomonas aeruginosa* is particularly resistant to most all the antibiotics presently available, essentially because of the very low permeability of its outer membrane. To overcome this, we synthesized four siderophore-based antibiotics formed by two quinolones - norfloxacin and benzonaphthylidone - bound to the pyoverdine of *P. aeruginosa* ATCC 15692 via two types of spacer arms: one stable and the other readily hydrolyzable. From the comparison of their antibacterial properties with those of the two unbound quinolones, we reached the following conclusions: (a) The adducts inhibit *Escherichia coli*'s gyrase showing that the dissociation of the compds. is not necessary for their activity. However, the presence of the pyoverdine moiety on the mol. decreases the inhibition activity compared to the antibiotic alone. (b) They facilitate the uptake of <sup>55</sup>Fe using the specific pyoverdine-mediated iron-transport system of the bacterium. No uptake was observed either with *P. aeruginosa* ATCC 27853, which produces a structurally different pyoverdine, or with *P. aeruginosa* K690, which is a mutant of *P. aeruginosa* ATCC 15692 lacking FpvA, the outer-membrane pyoverdine receptor. (c) MIC detns. have shown that only strains *P. aeruginosa* ATCC 15692 and the derived outer-membrane receptor-producing but pyoverdine-deficient *P. aeruginosa* IA1 mutant present higher susceptibility to the pyoverdine-quinolone adducts, whereas *P. aeruginosa* ATCC 27853 and K690 are much more resistant. (d) Growth inhibition by these adducts confirmed these results and showed that the adducts with the hydrolyzable spacer arm have better activity than those with the stable one and that the labile spacer arm adducts present much higher activity than the quinolones alone. These results show clearly that the penetration of the antibiotic into the cells is favored when this latter is coupled with pyoverdine: only the strains possessing the appropriate outer-membrane receptor present higher susceptibility to the adduct. In this case the antibiotic uses the pyoverdine-mediated iron-transport system. Furthermore, better efficiency is obtained when the spacer arm is labile and favors the antibiotic release inside the cell, allowing better inhibition of gyrase.

RX(11) OF 46 - REACTION DIAGRAM NOT AVAILABLE

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

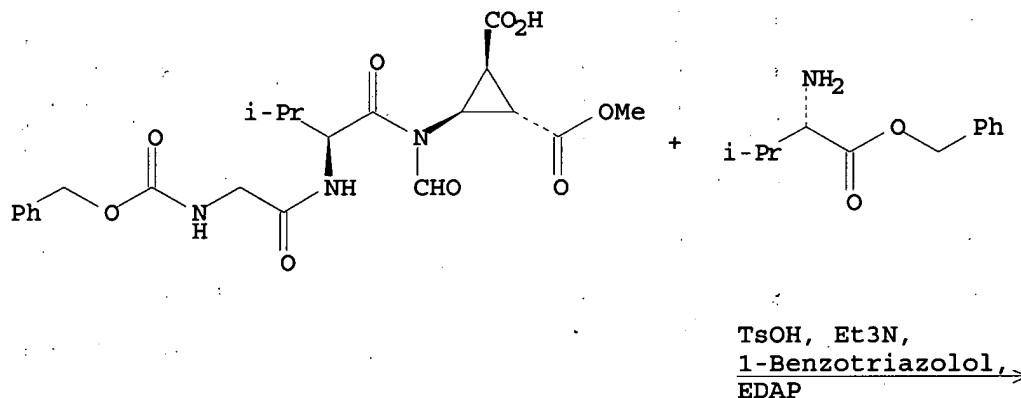
L34 ANSWER 7 OF 9 CASREACT COPYRIGHT 2005 ACS on STN  
 AN 126:186369 CASREACT  
 TI An efficient synthesis of conformationally restricted peptides containing  $\beta$ -aminocyclopropanecarboxylic acids  
 AU Voigt, Johannes; Noltemeyer, Mathias; Reiser, Oliver  
 CS Institut Organische Chemie, Georg-August-Universitaet, Goettingen, D-37077, Germany  
 SO Synlett (1997), (2), 202-204  
 CODEN: SYNLES; ISSN: 0936-5214  
 PB Thieme  
 DT Journal  
 LA English

GI

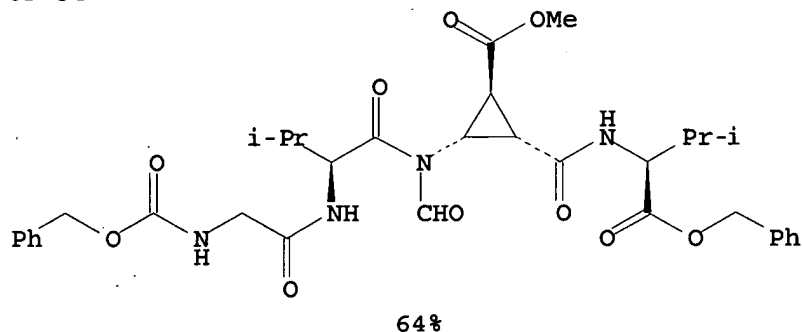


AB A short general synthesis of diastereo- and enantiomerically pure peptides such as I having a *cis*- $\beta$ -aminocyclopropanecarboxylate incorporated is reported. The approach proceeds through the bicyclic dihydropyrroles II ( $R = \text{Me}, \text{PhCH}_2, \text{CHMe}_2$ ) which were synthesized from the appropriate pyrroles.

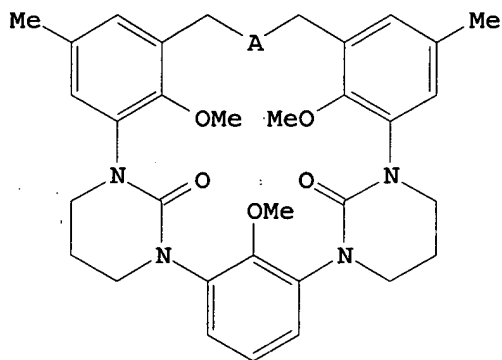
RX(10) OF 34



RX(10) OF 34



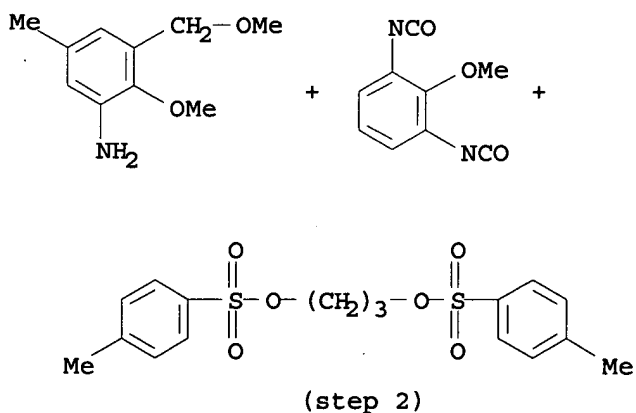
AN 113:171387 CASREACT  
 TI Host-guest complexation. 54. Spherands containing cyclic urea units  
 AU Bryant, Judi A.; Ho, Siew Peng; Knobler, Carolyn B.; Cram, Donald J.  
 CS Dep. Chem. Biochem., Univ. California, Los Angeles, CA, 90024, USA  
 SO Journal of the American Chemical Society (1990), 112(15), 5837-43  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English  
 GI



I

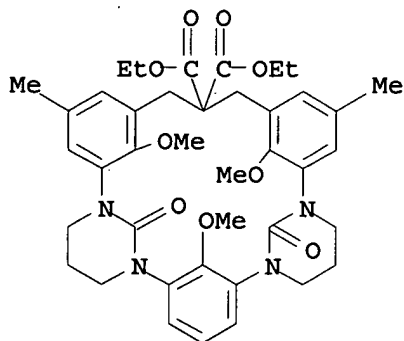
AB Three new spherands [I; A = O, S, C(CO<sub>2</sub>Et)<sub>2</sub>] and one hemispherand (I; A = 1,2-C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>) are reported. Crystal structure data are reported. Association consts. and free energies of bending ( $-\Delta G^\circ$ , kcal mol<sup>-1</sup>) were determined at 25° for Li<sup>+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Rb<sup>+</sup>, Cs<sup>+</sup>, NH<sub>4</sub><sup>+</sup>, MeNH<sub>3</sub><sup>+</sup>, and Me<sub>3</sub>CNH<sub>3</sub><sup>+</sup> picrates in CDCl<sub>3</sub> saturated with D<sub>2</sub>O.

RX(39) OF 97 - 4 STEPS



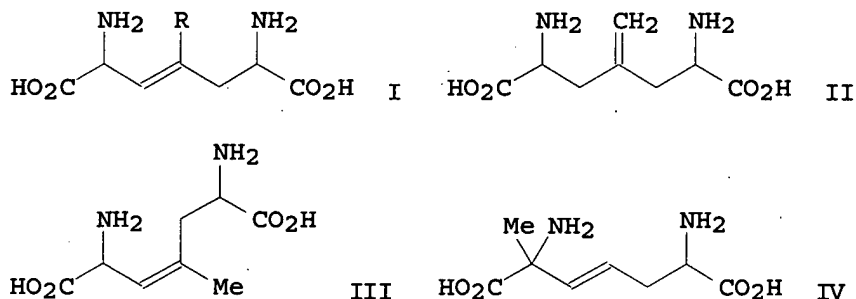
1. PhMe
2. PhCH<sub>2</sub>(Et)<sub>3</sub>N<sup>+</sup> Br<sup>-</sup>, NaOH, Benzene, Water
3. HBr, CHCl<sub>3</sub>, Water
4. di-Et malonate, NaH, THF

RX(39) OF 97 - 4 STEPS



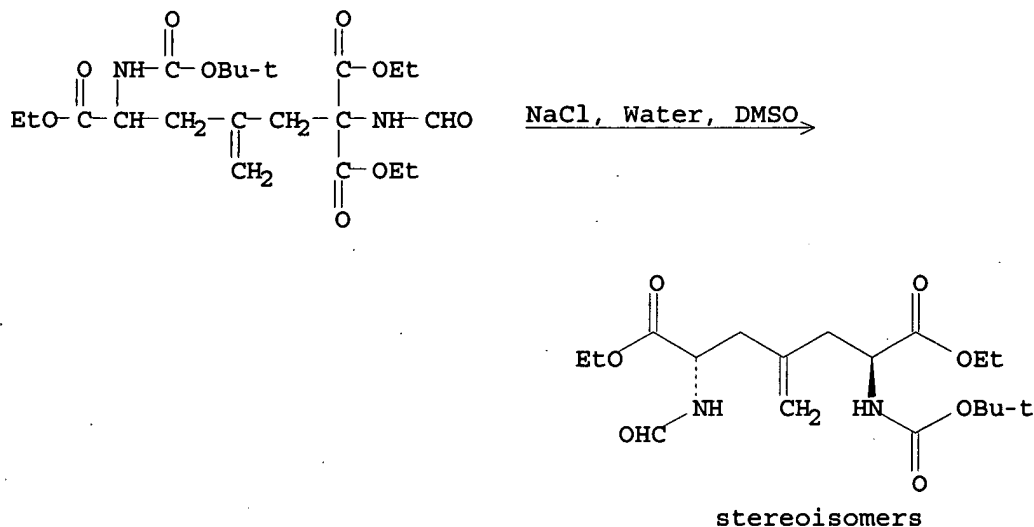
NOTE: 1) total yield 49%

L34 ANSWER 9 OF 9 CASREACT COPYRIGHT 2005 ACS on STN  
 AN 104:207637 CASREACT  
 TI The lysine pathway as a target for a new genera of synthetic antibacterial antibiotics?  
 AU Girodeau, Jean Marc; Agouridas, Constantin; Masson, Maryse; Pineau, Roland; Le Goffic, Francois  
 CS Cent. Rech. Delalande, Rueil-Malmaison, Fr.  
 SO Journal of Medicinal Chemistry (1986), 29(6), 1023-30  
 CODEN: JMCMAR; ISSN: 0022-2623  
 DT Journal  
 LA English  
 GI



AB Unsaturated diaminopimelic acid analogs I (R = H, Me, Cl), II, III, and IV were prepared as reversible or irreversible inhibitors of the 2 last enzymes of the lysine pathway. I (R = H) was the most potent inhibitor of meso-diaminopimelate decarboxylase. The antibacterial activities of the above analogs did not correlate with enzyme inhibiting activities. II exhibited strong antibacterial activity.

RX(24) OF 132



=> file hcaplus

FILE 'HCAPLUS' ENTERED AT 16:33:16 ON 15 APR 2005

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FILE COVERS 1907 - 15 Apr 2005 VOL 142 ISS 17

FILE LAST UPDATED: 14 Apr 2005 (20050414/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d que

L42	69	SEA	FILE=HCAPLUS	ABB=ON	TETRA(W)AMID?
L43	402	SEA	FILE=HCAPLUS	ABB=ON	TETRAAMID?
L44	439	SEA	FILE=HCAPLUS	ABB=ON	?TETRAAMID?
L45	70	SEA	FILE=HCAPLUS	ABB=ON	?TETRA(W)AMID?
L56	82	SEA	FILE=WPIX	ABB=ON	(L42 OR L43 OR L44 OR L45)
L61	132	SEA	FILE=EPFULL	ABB=ON	(L42 OR L43 OR L44 OR L45)
L62	81	SEA	FILE=EPFULL	ABB=ON	L61(L) INK?
L64	81	SEA	FILE=EPFULL	ABB=ON	L56 AND INK?
L65	81	SEA	FILE=EPFULL	ABB=ON	L62 OR L64



=> d que 155

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L46 490 SEA FILE=HCAPLUS ABB=ON (L42 OR L43 OR L44 OR L45)  
L48 13 SEA FILE=HCAPLUS ABB=ON L46 AND (?URETHAN? OR ?ISOCYAN?)  
L49 8 SEA FILE=HCAPLUS ABB=ON L46 AND PHASE?(3A)CHANG?  
L50 17 SEA FILE=HCAPLUS ABB=ON L48 OR L49  
L51 35 SEA FILE=HCAPLUS ABB=ON L46 AND (COLOR? OR PIGMENT? OR DYE?)  
L52 9 SEA FILE=HCAPLUS ABB=ON L51 AND INK?/SC,SX,AB,BI  
L53 5 SEA FILE=HCAPLUS ABB=ON L51 AND WAX?  
L54 11 SEA FILE=HCAPLUS ABB=ON L46 AND INK?/SC,SX,AB,BI  
L55 20 SEA FILE=HCAPLUS ABB=ON L50 OR (L52 OR L53 OR L54)

=> file wpix

FILE ~~'WPIX'~~ ENTERED AT 16:33:43 ON 15 APR 2005  
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FILE LAST UPDATED: 14 APR 2005 <20050414/UP>  
MOST RECENT DERWENT UPDATE: 200524 <200524/DW>  
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>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <<<

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PLEASE CHECK:  
<http://thomsonderwent.com/support/dwpioref/reftools/classification/code-revision/>  
FOR DETAILS. <<<

=> d que 157

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L56 82 SEA FILE=WPIX ABB=ON (L42 OR L43 OR L44 OR L45)  
L57 20 SEA FILE=WPIX ABB=ON L56 AND INK?

=> file compendex

FILE ~~'COMPENDEX'~~ ENTERED AT 16:34:00 ON 15 APR 2005  
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FILE LAST UPDATED: 11 APR 2005 <20050411/UP>  
FILE COVERS 1970 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
THE BASIC INDEX >>>

=> d que 158

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L56 82 SEA FILE=WPIX ABB=ON (L42 OR L43 OR L44 OR L45)  
L58 0 SEA FILE=COMPENDEX ABB=ON L56 AND INK?

=> file japio

FILE 'JAPIO' ENTERED AT 16:34:17 ON 15 APR 2005  
COPYRIGHT (C) 2005 Japanese Patent Office (JPO)- JAPIO

FILE LAST UPDATED: 4 APR 2005 <20050404/UP>  
FILE COVERS APR 1973 TO DECEMBER 24, 2004

<<< GRAPHIC IMAGES AVAILABLE >>>

=> d que 159

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L56 82 SEA FILE=WPIX ABB=ON (L42 OR L43 OR L44 OR L45)  
L59 0 SEA FILE=JAPIO ABB=ON L56 AND INK?

=> file jicst

FILE 'JICST-EPLUS' ENTERED AT 16:34:29 ON 15 APR 2005  
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FILE COVERS 1985 TO 11 APR 2005 (20050411/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED  
TERM (/CT) THESAURUS RELOAD.

=> d que 160

L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L56 82 SEA FILE=WPIX ABB=ON (L42 OR L43 OR L44 OR L45)  
L60 0 SEA FILE=JICST-EPLUS ABB=ON L56 AND INK?

=> dup rem 155 157

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PROCESSING COMPLETED FOR L55  
 PROCESSING COMPLETED FOR L57  
 L66 36 DUP REM L55 L57 (4 DUPLICATES REMOVED)

=> d 166 1-36 all

L66 ANSWER 1 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:313140 HCAPLUS  
 ED Entered STN: 13 Apr 2005  
 TI **Phase change inks** and process for the  
 preparation thereof  
 IN Drappel, Stephan V.; Breton, Marcel P.; Mayo, James D.; Wong, Raymond W.;  
 Bedford, Christine E.; Boils-Boissier, Danielle C.; Gardner, Sandra J.;  
 Smith, Paul F.  
 PA Xerox Corporation, USA  
 SO U.S., 16 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C09D011-00  
 NCL 106031860; 106031750; 106031610  
 CC 42 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6878198	B1	20050412	US 2003-722164	20031125
PRAI US 2003-722164		20031125		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6878198	ICM	C09D011-00
	NCL	106031860; 106031750; 106031610

AB **Phase change ink** compns. comprising (a) an ink carrier comprising a monoamide and a **tetra-amide**, and (b) **pigment** particles having oxygen-containing functional groups on the surfaces thereof. Also, processes for preparing a **phase change ink** which comprise (a) melting a **tetra-amide** which is solid at about 25+°C.; (b) admixing with the molten **tetra-amide pigment** particles having oxygen-containing functional groups on the surfaces thereof; (c) maintaining the mixture of **pigment** and **tetra-amide** at a temperature of at least about 100+°C. and at a temperature of no more than about 200+°C. for a period sufficient to enable the molten **tetra-amide** to wet the **pigment** particle surfaces; (d) subsequent to wetting of the **pigment** particle surfaces with the molten **tetra-amide**, adding to the mixture a monoamide; (e) subsequent to addition of the monoamide, subjecting the resulting mixture to high shear mixing; and (f) subsequent to subjecting the mixture to high shear mixing, optionally adding to the mixture addnl. ink ingredients.

L66 ANSWER 2 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:151219 HCAPLUS  
 DN 142:242467  
 ED Entered STN: 23 Feb 2005  
 TI **Phase change inks** for color printing.  
 IN Wong, Raymond W.; Drappel, Stephan V.; Smith, Paul F.; Allen, C. Geoffrey;  
 Turek, Caroline M.  
 PA Xerox Corporation, USA

*All of these references do contain the term tetra-amide. In some of the WPIX (Perwent) references the term does not show because it is in indexing which doesn't print out.*

SO U.S., 19 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C09D011-02  
 NCL 106031610; 106031750  
 CC 42-12 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6858070	B1	20050222	US 2003-722162	20031125
PRAI	US 2003-722162		20031125		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6858070	ICM	C09D011-02
	NCL	106031610; 106031750

AB **Pigment- and dye-based phase change ink composition for long-term stable and uniformly dispersed inks consists of (a) an ink carrier which comprising a monoamide or/and a tetraamide, (b) a polyalkylene succinimide; and (c) pigment or dye particles. A typical composition prepared by mixing 310.8 g of a pigment dispersion (prepared by mixing 239.7 g of a carbon black with 750.72 g of a tetraamide resin), 14.6 g of polyisobutylene succinimide, 777. 4 g of a polyethylene wax and 218.63 g of a polyurethane resin at 135° and filtered through a glass fiber filters gave a long-term stable inks with an excellent printing stability (for a standard XEROX PHASER 850 ink jet printer).**

ST **pigment dye based phase change ink longterm stable ink; monoamide tetraamide polyalkylene succinimide pigment phase change ink manuf**

IT Fatty acids, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (C40-48, reaction products with ethylene diamine and dimer acids, tetraamide; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)

IT Fatty acids, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dimer acids, C36, reaction products with ethylene diamine and fatty acids, tetraamide; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide, a polyalkylene succinimide and a pigment)

IT **Inks**  
 (hot-melt; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)

IT **Dyes**  
 Pigments, nonbiological  
 (pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)

- IT Carbon black, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
**(pigment; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)**
- IT 844873-49-0, OLOA 11000  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
**(Oronite OLOA 11000; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)**
- IT 13276-08-9P, Kemamide S180  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
**(monoamide; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)**
- IT 123-56-8D, Succinimide, polyisobutenyl derivs. 4098-71-9D, Isophorone diisocyanate, polyurethane with hydroabietyl alc. 9002-88-4, Polywax 655 13393-93-6D, Abitol E, polyurethane with IPDA  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
**(pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)**
- IT 107-15-3DP, Ethylene diamine, tetraamide with fatty acids  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
**(tetraamide; pigment- and dyes-based phase change ink composition consisting of an ink carrier which comprising a monoamide or/and a tetraamide, a polyalkylene succinimide and a pigment)**

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Anon; EP 0187352 1986 HCAPLUS
- (2) Anon; EP 0206286 1986 HCAPLUS
- (3) Anon; WO 9404619 1994 HCAPLUS
- (4) Ball; US 4684956 A 1987 HCAPLUS
- (5) Banning; US 5994453 A 1999 HCAPLUS
- (6) Banning; US 6174937 B1 2001 HCAPLUS
- (7) Banning; US 6309453 B1 2001 HCAPLUS
- (8) Banning; US 6380423 B2 2002 HCAPLUS
- (9) Berry; US 3653932 A 1972 HCAPLUS
- (10) Bui; US 5782966 A 1998 HCAPLUS
- (11) Drappel, S; Copending U S Appl No 10/722,164
- (12) Griebel; US 5496879 A 1996 HCAPLUS
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- (14) Jaeger; US 5621022 A 1997 HCAPLUS
- (15) Jaeger; US 5902841 A 1999 HCAPLUS
- (16) Lima-Marques; US 5800600 A 1998 HCAPLUS
- (17) Merritt; US 4390369 A 1983 HCAPLUS
- (18) Merritt; US 4484948 A 1984 HCAPLUS
- (19) Oliver; US 5593486 A 1997 HCAPLUS
- (20) Schwarz; US 5006170 A 1991 HCAPLUS
- (21) Schwarz; US 5122187 A 1992 HCAPLUS

- (22) Taniguchi; US 4851045 A 1989 HCAPLUS
- (23) Titterington; US 4889761 A 1989
- (24) Titterington; US 5372852 A 1994 HCAPLUS
- (25) Williams; US 5221335 A 1993 HCAPLUS
- (26) Wong; US 5720802 A 1998 HCAPLUS
- (27) Wong, R; Copending U S Appl No 10/721,851
- (28) You; US 5151120 A 1992 HCAPLUS

L66 ANSWER 3 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:9297 HCAPLUS

DN 142:116009

ED Entered STN: 06 Jan 2005

TI Rhodamine dye derivatives and their use for phase change inks.

IN Banning, Jeffery H.; Wu, Bo; Duff, James M.; Wedler, Wolfgang G.; Thomas, Jule W., Jr.; Bridgeman, Randall R.

PA Xerox Corporation, USA

SO Eur. Pat. Appl., 184 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C09B011-24

CC 41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1493781	A1	20050105	EP 2004-11834	20040518
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	US 2005011410	A1	20050120	US 2003-607373	20030626
	CA 2471529	AA	20041226	CA 2004-2471529	20040618
	JP 2005015806	A2	20050120	JP 2004-190146	20040628
PRAI	US 2003-607373	A	20030626		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1493781	ICM	C09B011-24
EP 1493781	ECLA	C09B011/12; C09B011/24; C09D011/00C4
US 2005011410	ECLA	C09B011/12; C09B011/24; C09D011/00C4
JP 2005015806	FTERM	4H056/BA03; 4H056/BB05; 4H056/BC01; 4H056/BD01; 4H056/BF26F; 4H056/FA01

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Organometallic derivs. of rhodamine dyes, such as I is used for phase change and jet-printing inks. A typical composition for phase change inks is prepared by melting together a polyethylene wax, stearyl stearamide wax, tetraamide resin, urethane resin from hydroabietyl alc. and isophorone diisocyanate, isophorone diisocyanate, urethane resin from stearyl isocyanate and glycerol-based alc., antioxidant, I and a secondary colorant (brominated quinizarin derivs.) at 135°, filtering and solidifying at room temperature The magenta phase change

- ink thus prepared exhibits a viscosity 10.80 cP at 140°.
- ST organometallic deriv rhodamine **dye phase change jet printing ink**
- IT Amines, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (C16-22-tert-alkyl, Primene JM-T; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT Fatty acids, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (C40-48, secondary **colorant precursor**; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT Amines, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (bis(hydrogenated tallow alkyl), Armeen 2HT; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT **Inks**  
 (hot-melt; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT **Inks**  
 (jet-printing; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT 816438-07-0, Unilin 425PA  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (Unilin 425PA, 1-Propanamine, 3-(dotriacontyloxy)-; organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT 7440-32-6DP, Titanium, rhodamine **dye complex** 815597-14-9P  
 815597-15-0P 815597-16-1P 815597-17-2P 815597-19-4P 815597-22-9P  
 815597-23-0P 815597-24-1P 815597-25-2DP, reaction products with Unacid  
 700 815597-29-6P 815597-30-9P 815597-34-3P 816437-69-1DP, titanium  
 complex 817164-33-3P 819861-25-1P 819861-26-2P 819861-27-3P  
 819861-28-4P 819861-29-5P 819861-30-8P 819861-32-0P 820217-86-5P  
 820218-79-9P 820219-24-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT 815597-12-7DP, reaction products with phosphomolybdic and phosphotungstic  
 acid  
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or  
 engineered material use); PREP (Preparation); RACT (Reactant or reagent);  
 USES (Uses)  
 (organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT 81-88-9DP, Organometallic derivs. 815597-13-8P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (organometallic derivs. of rhodamine **dyes for phase change and jet-printing inks**)
- IT 93-05-0, N,N-Diethyl-1,4-phenylenediamine 99-98-9, N,N-Dimethyl-1,4-  
 phenylenediamine 104-63-2, N-Benzylethanolamine 110-73-6,  
 2-(Ethylamino)ethanol 111-42-2, Diethanolamine, reactions 112-96-9,  
**Octadecylisocyanate** 112-99-2, Distearyl amine 124-30-1, Armeen  
 18d 373-02-4, Nickel acetate 613-13-8, 2-Aminoanthracene 1120-48-5,  
 Dioctyl amine 1484-84-0, 2-Piperidineethanol 2320-96-9,  
 DichloroFluorescein 2321-07-5, Fluorescein 6284-40-8,  
 N-Methyl-D-glucamine 7446-70-0, Aluminum chloride (AlCl<sub>3</sub>), reactions

7447-39-4, Copper chloride (CuCl<sub>2</sub>), reactions 7550-45-0, Titanium chloride (TiCl<sub>4</sub>) (T-4)-, reactions 7646-85-7, Zinc chloride (ZnCl<sub>2</sub>), reactions 7758-94-3, Iron dichloride 7772-99-8, Tin chloride (SnCl<sub>2</sub>), reactions 7787-60-2 10025-73-7, Chromium chloride (CrCl<sub>3</sub>) 10043-52-4, Calcium chloride, reactions 11104-88-4, Phosphomolybdic acid 12067-99-1, Phosphotungstic acid 60223-95-2, Nacure 155 65373-69-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(organometallic derivs. of rhodamine dyes for phase change and jet-printing inks)

IT 81-64-1, Quinizarin 104-10-9, 4-Aminobenzene ethanol 104-15-4, p-Toluenesulfonic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (secondary colorant precursor; organometallic derivs. of rhodamine dyes for phase change and jet-printing inks)

IT 819861-34-2DP, alkyl derivs.

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (secondary colorant; organometallic derivs. of rhodamine dyes for phase change and jet-printing inks)

IT 126-33-0, Tetramethylene sulfone

RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent; organometallic derivs. of rhodamine dyes for phase change and jet-printing inks)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Basf Ag; EP 0573762 A 1993 HCAPLUS
- (2) Basf Ag; DE 4215394 A 1993 HCAPLUS
- (3) Hahn, E; US 5410053 A 1995 HCAPLUS
- (4) Wayne, J; US 5084099 A 1992 HCAPLUS
- (5) Wayne, J; US 5507864 A 1996 HCAPLUS
- (6) Zeneca Ltd; GB 1232098 A 1971 HCAPLUS
- (7) Zeneca Ltd; GB 2311075 A 1997 HCAPLUS

L66 ANSWER 4 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 1

AN 2004:747789 HCAPLUS

DN 141:262210

ED Entered STN: 14 Sep 2004

TI Colorant compositions, phase change ink, and jet printing on a recording sheet

IN Banning, Jeffery H.; Titterington, Donald R.; King, Clifford R.

PA Xerox Corporation, USA

SO U.S., 24 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C09D011-02

ICS C09D011-12; C09D011-14

NCL 106031290; 106031610; 106031430; 106031750; 106031300; 106031620; 347100000

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37

FAN.CNT 1

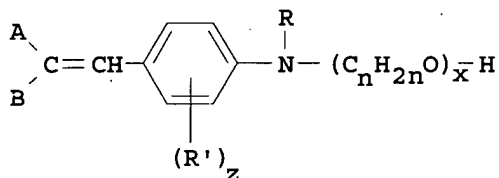
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6790267	B1	20040914	US 2003-422897	20030424
	JP 2004323846	A2	20041118	JP 2004-121232	20040416
	EP 1471115	A1	20041027	EP 2004-9421	20040421
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				



IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR  
 US 2004215022 A1 20041028 US 2004-854581 20040525  
 PRAI US 2003-422897 A 20030424  
 CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6790267	ICM	C09D011-02
	ICS	C09D011-12; C09D011-14
	NCL	106031290; 106031610; 106031430; 106031750; 106031300; 106031620; 347100000
US 6790267	ECLA	C09B069/00
JP 2004323846	FTERM	4H056/CA01; 4H056/CC02; 4H056/CC08; 4H056/CE03; 4H056/DD04; 4H056/DD29; 4J039/AD13; 4J039/AE04; 4J039/BC03; 4J039/BC07; 4J039/BC12; 4J039/BC16; 4J039/BC17; 4J039/BC32; 4J039/BC33; 4J039/BC50; 4J039/BC54; 4J039/BC65
EP 1471115	ECLA	C09B069/00; C09D011/00C4
US 2004215022	ECLA	C09B069/00; C09D011/00C4

GI



- AB **Colorant** compds. contain the moiety or are I (adducts) or are polymer bound, where R = alkyl, aryl, arylalkyl, or alkylaryl, and where R can be joined to the Ph moiety to form a ring, each R1 = halogen, alkyl, alkoxy, nitrile, nitro, amide, or sulfonamide, z = 0, 1, 2, 3, or 4, n = the number of C atoms in each repeat alkylene oxide unit, x = the number of repeat alkylene oxide units, and A and B = H, halogen, tertiary amino groups, imine groups, ammonium groups, cyano, pyridine, pyridinium, ether, ester, amide, sulfate, sulfonate, sulfide, sulfoxide groups, phosphine, phosphonium, phosphate, nitrile, mercapto, nitro, sulfone, acyl, azo, cyanato, alkyl, alkoxy, aryl, aryloxy, arylalkyl, arylalkyloxy, alkylaryl, or alkylaryloxy, where the **colorant** has ≤1 -OH, -SH, or primary or secondary amino group/mol. Thus, 500 g stearylstearamide wax (Kemamide S-180), 125 g UNIREZ 2970 **tetraamide** resin, 208 g **colored** resin reaction product of octyl phenol ethoxylate, IPDI, and polyoxyalkylene magenta methine (preparation given), and 1.6 g NAUGUARD 445 antioxidant are melted together at 140°, then blended by stirring at 115° for apprx.0.5 h, then poured into molds, and allowed to solidify to form **ink** sticks.
- ST polyoxyalkylene magenta methine **phase change ink jet printing**
- IT **Urethanes**  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (colorant; hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)
- IT **Dyes**  
**Ink-jet printing**  
 (hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT **Inks**

(hot-melt; hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT 74849-27-7P

RL: PUR (Purification or recovery); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(acetylation/formylation; hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, acetylated/formylated, reaction products with N-ethyldihydroxymethyl-oxypyridine carbonitrile 28141-13-1DP, reaction products with N-ethylaniline alkoxyate 753486-50-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**colorant**; hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT 2421-28-5DP, Benzophenonetetracarboxylic dianhydride, reaction products with polyoxyalkylene magenta methine and surfactant 4098-71-9DP, Isophorone **diisocyanate**, reaction products with polyoxyalkylene magenta methine and surfactant 9002-93-1DP, TRITON X15, reaction products with polyoxyalkylene magenta methine and anhydride 9011-13-6DP, Styrene-maleic anhydride polymer, reaction products with polyoxyalkylene magenta methine and surfactant 34398-01-1DP, NEODol 1-3, reaction products with polyoxyalkylene magenta methine and anhydride polymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT 108-24-7, Acetic anhydride

RL: RCT (Reactant); RACT (Reactant or reagent)

(hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

IT 753486-49-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; hot melt **ink** containing polymer bound methine for jet printing on a recording sheet)

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; DE 4205636 AL
- (2) Anon; DE 4205713 AL HCAPLUS
- (3) Anon; EP 0187352 1986 HCAPLUS
- (4) Anon; EP 0206286 1986 HCAPLUS
- (5) Anon; WO 9404619 1994 HCAPLUS
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- (7) Ball; US 4684956 A 1987 HCAPLUS
- (8) Banning, J; Colorant Compositions,
- (9) Banning, J; Colorant Compositions,
- (10) Banning, J; Colorant Compositions,
- (11) Berry; US 3653932 A 1972 HCAPLUS
- (12) Bruhnke; US 5456725 A 1995 HCAPLUS
- (13) Cross; US 4284729 A 1981 HCAPLUS
- (14) Griebel; US 5496879 A 1996 HCAPLUS
- (15) Hines; US 5108460 A 1992 HCAPLUS
- (16) Hines; US 5591833 A 1997 HCAPLUS
- (17) Hugl; US 4132840 A 1979 HCAPLUS
- (18) Jaeger; US 4889560 A 1989 HCAPLUS
- (19) Jaeger; US 5621022 A 1997 HCAPLUS
- (20) Keller; US 4400320 A 1983 HCAPLUS
- (21) Kluger; US 4507407 A 1985 HCAPLUS

(22) Kluger; US 4751254 A 1988 HCAPLUS  
 (23) Kluger; US 4912203 A 1990 HCAPLUS  
 (24) Kluger; US 5043013 A 1991 HCAPLUS  
 (25) Kluger; US 5082938 A 1992 HCAPLUS  
 (26) Kluger; US 5270363 A 1993 HCAPLUS  
 (27) Merritt; US 4390369 A 1983 HCAPLUS  
 (28) Merritt; US 4484948 A 1984 HCAPLUS  
 (29) Miley, J; IUPAC Pure and Applied Chemistry 1996, V68(7), P1423 HCAPLUS  
 (30) Moody; US 5290921 A 1994 HCAPLUS  
 (31) Moore; US 4594454 A 1986 HCAPLUS  
 (32) Moore; US 4658064 A 1987 HCAPLUS  
 (33) Rekers; US 4846846 A 1989 HCAPLUS  
 (34) Schwarz; US 5006170 A 1991 HCAPLUS  
 (35) Stephens; US 5864002 A 1999 HCAPLUS  
 (36) Taniguchi; US 4851045 A 1989 HCAPLUS  
 (37) Titterington; US 4889761 A 1989  
 (38) Titterington; US 5372852 A 1994 HCAPLUS  
 (39) Titterington; US 5919839 A 1999 HCAPLUS  
 (40) Williams; US 5221335 A 1993 HCAPLUS  
 (41) Wolf; US 3994835 A 1976 HCAPLUS  
 (42) You; US 5151120 A 1992 HCAPLUS

L66 ANSWER 5 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2004:100632 HCAPLUS  
 DN 140:155719  
 ED Entered STN: 08 Feb 2004  
 TI Antireflective coatings for photolithog. patterning of semiconductor  
 integrated circuits  
 IN McGinness, Vincent D.; Risser, Steven M.; Cafmeyer, Jeffrey T.; White,  
 James L.; Vijayendran, Bhima R.  
 PA USA  
 SO U.S. Pat. Appl. Publ., 7 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM G03F007-00  
 ICS G03F007-11  
 NCL 430271100; 430910000; 430270100  
 CC 76-3 (Electric Phenomena)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004023156	A1	20040205	US 2003-455095	20030605
PRAI	US 2002-387149P	P	20020607		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 2004023156	ICM	G03F007-00
		ICS	G03F007-11
		NCL	430271100; 430910000; 430270100
	US 2004023156	ECLA	G03F007/09A
AB	The invention relates to an antireflective coating composition including a polyester and/or a <b>polyurethane</b> ; and a crosslinker selected from the group consisting of <b>tetraamidomethyl</b> ethers.		
ST	antireflective coating photolithog semiconductor integrated circuit		
IT	Antireflective films		
	Crosslinking agents		
	Integrated circuits		
	Photolithography		
	(antireflective coating for photolithog. patterning of semiconductor		

integrated circuit)  
'IT Polyesters, processes  
Polyurethanes, processes  
RL: DEV (Device component use); EPR (Engineering process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
(antireflective coating for photolithog. patterning of semiconductor integrated circuit)  
IT Coating process  
(spin; antireflective coating for photolithog. patterning of semiconductor integrated circuit)

L66 ANSWER 6 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-687964 [67] WPIX

DNN N2004-544863 DNC C2004-243899

TI Phase change ink composition for ink jet printers, has reaction product of isocyanate and antioxidant or ultraviolet stabilizer molecule with isocyanate-reactive hydroxy group and/or primary or secondary amino group.

DC A18 A28 A97 E19 G02 T04

IN ~~BANNING~~, J H; RYAN-HOTCHKISS, M; TITTERINGTON, D R

PA (XERO) XEROX CORP

CYC 1

PI US 2004167249 A1 20040826 (200467)\* 36 C03C017-00

ADT US 2004167249 A1 US 2003-369981 20030220

PRAI US 2003-369981 20030220

IC ICM C03C017-00

ICS C09D005-00

AB US2004167249 A UPAB: 20041019

NOVELTY - A phase change ink composition comprises a colorant and the reaction product of an isocyanate and an antioxidant or ultraviolet stabilizer molecule having isocyanate-reactive hydroxy group(s) and/or isocyanate-reactive primary or secondary amino group.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process comprising incorporating into an ink jet printing apparatus a phase change ink composition comprising a colorant and the reaction product of an isocyanine and antioxidant or UV stabilizer molecule having at least one isocyanate-reactive prim. or sec. amino; melting the ink; and ejecting the droplets in an imagewise pattern on a substrate.

USE - For phase change ink jet printers.

ADVANTAGE - The invention has improved lightfastness and a high degree of transparency. The oxidant or UV stabilizer does not diffuse out from the colorant or from the rest of the ink composition. It does not bloom at the surface of images generated with the ink. The ink does not exhibit undesirable properties, e.g. plasticization as a result of the present of antioxidant or UV stabilizer.  
Dwg.0/0

FS CPI EPI

FA AB; GI; DCN

MC CPI: A05-G01E; A05-J04; A09-A; A12-W07D1; E06-D08; E07-A04; E07-D05; E07-D13B; E10-A14B; E10-A15F; E10-B01A; E10-B03A; E10-C03; E10-C04; E10-C04B; E10-D03; E10-E02U; E10-G01; E10-G02; G02-A04A  
EPI: T04-G02C

L66 ANSWER 7 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-236758 [22] WPIX

DNN N2004-187553 DNC C2004-092539

TI Phase change ink composition for color printing, e.g. postal marking and industrial marking, comprises phase change carrier and

specific colorant compound.

DC A18 A28 A97 E21 G02 T04

IN BANNING, J H; CARLINI, R; DUFF, J M; MAYO, J D; SMITH, P F; THOMAS, J W;  
WU, B

PA (XERO) XEROX CORP

CYC 1

PI US 2004007155 A1 20040115 (200422)\* 48 C09D011-02

US 6755902 B2 20040629 (200443) C09D011-00

ADT US 2004007155 A1 US 2002-185264 20020627; US 6755902 B2 US 2002-185264  
20020627

PRAI US 2002-185264 20020627

IC ICM C09D011-00; C09D011-02

AB US2004007155 A UPAB: 20040331

NOVELTY - A phase change **ink** composition comprises a phase change carrier and specific colorant compound.

DETAILED DESCRIPTION - A phase change **ink** composition comprises a phase change carrier and colorant compound of formula (I).

R1 = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic, silyl, siloxane, polysilylene, or polysiloxane;

R2 = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic, silyl, siloxane, polysilylene, polysiloxane, or group of formula  $-(CH_2)_r-X-C(O)-(CH_2)_sSCH_3$ ;

r, s = a number of repeat  $-CH_2-$  groups;

R3 = alkyl, aryl, arylalkyl, or alkylaryl;

X = direct bond, O, S, a group of formula  $-NR_{40}-$ , or group of formula  $-CR_{50}OR_{60}-$ ;

R40 = H, alkyl, aryl, arylalkyl, or alkylaryl;

R50, R60 = H, alkyl, aryl, arylalkyl, or alkylaryl;

Z = H, halo, nitro, alkyl, aryl, arylalkyl, alkylaryl, group of formula  $-C(O)-R_{70}$ , sulfonyl of formula  $-SO_2R_{80}$ , or phosphoryl of formula  $-PO_3R_{90}$ ;

R70 = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, a heterocyclic, silyl, siloxane, polysilylene, or polysiloxane;

R80 = H, alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, a polyalkylaryleneoxy, heterocyclic, silyl, siloxane, polysilylene, or polysiloxane;

R90 = H, alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic, silyl, siloxane, polysilylene, or polysiloxane.

An INDEPENDENT CLAIM is also included for a process comprising incorporating into an **ink** jet printing apparatus a phase change **ink** composition, melting the **ink**, and causing droplets of the melted **ink** to be ejected in imagewise pattern into a substrate.

USE - For color printing such as postal marking, industrial marking and labeling.

ADVANTAGE - The colorant is thermally stable, exhibits minimal undesirable discoloration when exposed to elevated temperatures, exhibits desirable brilliance, hue and chroma, and has high lightfastness characteristics. It has a pleasing color, and exhibits desirable solubility characteristics in phase change **ink** carrier compositions. It enables phase change **inks** to be jetted at greater than 135 deg. C while maintaining thermal stability, generates

images with low pile height and that approaches lithographic thin image quality, and exhibits oxidative stability. It does not precipitate from phase change ink carriers, does not diffuse into adjacently printed inks of different colors, does not leach from media into tape adhesives or paper, and does not lead to clogging of phase change ink jet printhead. It also generates images with sharp edges that remain sharp over time, and which retain their high image quality in warm climates.

Dwg.0/0

FS CPI EPI

FA AB; GI; DCN

MC CPI: A12-W07D1; E21-C10; E21-C17; G02-A04A; G05-F03  
EPI: T04-G02C

L66 ANSWER 8 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2005-009733 [01] WPIX

DNN N2005-007602 DNC C2005-002748

TI Ink composition for use in phase-change inkjet printer, comprises colorant, phase-change ink carrier, and specific ultraviolet stabilizer molecule.

DC A18 A28 A97 E14 G02 P75 S06 T04

IN BEDFORD, C E; BRETON, M P; GOODBRAND, H B

PA (XERO) XEROX CORP

CYC 4

PI	US 6811596	B1	20041102 (200501)*	12	C09D011-00
	JP 2004339512	A	20041202 (200501)	18	C09D011-00
	US 2004226476	A1	20041118 (200501)		C09D011-00
	BR 2004001722	A	20050118 (200513)		C09D011-02
	CN 1550528	A	20041201 (200516)		C09D011-02

ADT US 6811596 B1 US 2003-436177 20030512; JP 2004339512 A JP 2004-142463 20040512; US 2004226476 A1 US 2003-436177 20030512; BR 2004001722 A BR 2004-1722 20040510; CN 1550528 A CN 2004-43103 20040511

PRAI US 2003-436177 20030512

IC ICM C09D011-00; C09D011-02

ICS B41J002-01; B41M005-00; G01D011-00

AB US 6811596 B UPAB: 20050103

NOVELTY - A phase-change ink composition comprises colorant, phase-change ink carrier, and specific UV stabilizer molecule.

DETAILED DESCRIPTION - A phase-change ink composition comprises colorant, phase-change ink carrier, and antioxidant or UV stabilizer molecule of formula (I).

R1-R9 = H, -OH, -NH2, alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, halo, -CN, aldehyde, ketone, ester, amide, sulfide, sulfoxide, nitrile, sulfone, acyl, or carboxylic acid

At least one of R1-R9 is at least 8C alkyl, at least 6C aryl, at least 6C aryloxy, at least 7C arylalkyl, at least 7C arylalkyloxy, at least 7C alkylaryl, or at least 7C alkylaryloxy.

An INDEPENDENT CLAIM is also included for an imaging process including incorporating the above ink composition into an inkjet printing apparatus, melting the ink; and ejecting droplets of melted ink in an imagewise pattern onto a substrate.

USE - The composition is useful in phase-change inkjet printers. It is used for producing digital photographs. It can also be used for gravure printing, postal marking, industrial marking, or labeling.

ADVANTAGE - The inventive ink composition has improved light fastness, generates prints with good archival qualities, and exhibits desirable jetting characteristics.

Dwg.0/0

FS CPI EPI GMPI

FA AB; GI; DCN  
MC CPI: A08-A03; A12-W07D1; E10-A10A; E10-A10B; E10-A10C; E10-A15F; E10-C04B;  
E10-D03A; E10-D03C; E10-D03C3; E10-E01U; E10-E02D4; E10-E02D5;  
E10-E02E1; E10-E02F1; E10-F02A2; E10-F02C; G02-A04A; G02-A04B;  
G05-F03  
EPI: S06-A04C2; T04-G02C

L66 ANSWER 9 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-578735 [56] WPIX

CR 2004-774841 [76]

DNN N2004-457314 DNC C2004-211120

TI A phase change **ink**, useful for postal marking, industrial marking and labeling, comprises a phase change **ink** carrier and a colorant compound comprising phenyl diazonium derivative.

DC A85 A97 E21 G02 L03 P75 T04

IN BANNING, J H; KING, C R; TITTERINGTON, D R

PA (XERO) XEROX CORP

CYC 36

PI US 6764541 B1 20040720 (200456)\* 23 C09D011-02  
EP 1471117 A1 20041027 (200471) EN C09B069-00  
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IT LI LT LU  
LV MC MK NL PL PT RO SE SI SK TR  
JP 2004323845 A 20041118 (200476) 20 C09B029-08  
CN 1539895 A 20041027 (200512) C09D017-00

ADT US 6764541 B1 US 2003-422742 20030424; EP 1471117 A1 EP 2004-9567  
20040422; JP 2004323845 A JP 2004-121208 20040416; CN 1539895 A CN  
2004-35106 20040423

PRAI US 2003-422742 20030424

IC ICM C09B029-08; C09B069-00; C09D011-02; C09D017-00

ICS B41J002-01; B41M005-00; C08G018-85; C08G081-00; C09B029-09;  
C09B069-10; C09D011-00; C09D011-12; C09D011-14

AB US 6764541 B UPAB: 20050218

NOVELTY - A phase change **ink** (I) comprises a phase change **ink** carrier and a colorant compound comprising phenyl diazonium derivatives (A).

DETAILED DESCRIPTION - A phase change **ink** (I) comprises a phase change **ink** carrier and colorant compound comprising phenyl diazonium derivative of formula (A).

R = alkyl, aryl, arylalkyl, alkoxyaryl or joins to phenyl moiety to form a ring;

R' = aromatic or heteroaromatic-containing group;

Ra = halo, alkyl, alkoxy, nitrile, nitro, amide or sulfonamide;

w = 0-4;

n = number of C in each repeat alkylene oxide unit; and

x = number of repeat alkylene oxide units.

The colorant has no more than one OH, SH or primary or secondary amino group per molecule.

An INDEPENDENT CLAIM is also included for a process comprising incorporating (I) into an **ink** jet printing apparatus, melting the **ink** and causing droplets of the melted **ink** to be ejected in an imagewise pattern onto a substrate.

USE - (I) is useful for postal marking, industrial marking and labeling.

ADVANTAGE - (I) improves the reliability of the **ink** jet printing and dot quality. (I) also prevents migration of **ink** along the printing medium.

Dwg.0/0

FS CPI EPI GMPI

FA AB; GI; DCN

MC CPI: A12-W07D1; E21-C01; E21-C03; E21-C23; E24-B; G02-A04A; G05-F03;

L03-D04D  
EPI: T04-G02C

L66 ANSWER 10 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
AN 2004-223729 [21] WPIX  
DNN N2004-176650 DNC C2004-088169  
TI Phase change ink composition for ink jet printing  
apparatus, contains phase change ink carrier and dimeric azo  
pyridone colorant.  
DC A97 E21 G02 T04  
IN ~~BANNING, J H~~; CARLINI, R; DUFF, J M; MAYO, J D; WU, B  
PA (XERO) XEROX CORP  
CYC 1  
PI US 6673139 B1 20040106 (200421)\* 44 C09D011-00  
ADT US 6673139 B1 US 2002-184266 20020627  
PRAI US 2002-184266 20020627  
IC ICM C09D011-00  
AB US 6673139 B UPAB: 20040326

NOVELTY - A phase change ink composition comprises a phase  
change ink carrier and a dimeric azo pyridone colorant of  
formula (I).

DETAILED DESCRIPTION - A phase change ink composition  
comprises a phase change ink carrier and a dimeric azo pyridone  
colorant of formula (I).

X and X' = direct bond, O, S, -NR40- or -CR50R60-;  
R40, R50 and R60 = H, alkyl, aryl, arylalkyl or alkylaryl;  
Z and Z' = H, halogen, nitro, alkyl, aryl, arylalkyl, alkylaryl,  
-C(=O)-R70, -SO2R80, -PO3R90;  
R70 = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy,  
arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy,  
polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic, silyl, siloxane,  
polysilylene or polysiloxane;  
R80 and R90 = same as R70 and H;  
R4 and R4' = same as R70;  
R5 = alkylene, arylene, arylalkylene, alkylarylene, alkyleneoxy,  
aryleneoxy, arylalkyleneoxy, alkylaryleneoxy, polyalkyleneoxy,  
polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic,  
silylene, siloxane, polysilylene, polysiloxane;  
R6 and R6' = same as R40 except H; and  
n and m = integers.

An INDEPENDENT CLAIM is included for ink jet printing  
process.

USE - For ink jet printing process (claimed).

ADVANTAGE - The phase change ink composition comprises  
yellow colorant having favorable thermal stability and reduced  
discoloration when exposed to elevated temperature. The colorant exhibits  
favorable brilliance, desirable hue and chroma. The colorant has excellent  
light fastness and solubility characteristics in ink carrier.  
The phase change ink has excellent thermal stability, and  
generates image with low pile height and good quality. The colorant  
exhibits excellent oxidative stability, and does not precipitate from  
carrier or diffuse into adjacently printed inks of different  
colors. The colorant does not leach from media such as ink  
carriers into tape adhesives and papers. Clogging of phase change  
ink in the ink jet print-head is prevented. The phase  
change ink is inexpensive, and forms images having sharp edges,  
high optical density, which retain the image quality in warm climates.  
Though the phase change ink comprises reduced amount of  
colorant, spectral properties of the ink are maintained.  
Dwg.0/0



FS CPI EPI  
 FA AB; GI; DCN  
 MC CPI: A12-W07D1; E01; E10-A08; E10-C04L; E10-D03A; E10-D03C; E10-E04L4;  
 E10-E04L5; E21-C22; G02-A04A; G02-A04B; G05-F03  
 EPI: T04-G02C

L66 ANSWER 11 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2005-059438 [07] WPIX  
 DNN N2005-051681 DNC C2005-021041  
 TI Composition for hot melt or phase change **inks** for applications  
 e.g. postal marking, industrial marking and labeling comprises a phase  
 change **ink** carrier and a chromogen colorant compound.  
 DC E24 G02 T04  
 IN BANNING, J H; DUFF, J M; TITTERINGTON, D R; WEDLER, W G; WU, B  
 PA (XERO) XEROX CORP  
 CYC 36  
 PI EP 1491596 A1 20041229 (200507)\* EN 275 C09D011-00  
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IT LI LT LU  
 LV MC MK NL PL PT RO SE SI SK TR  
 CA 2472113 A1 20041226 (200508) EN C09D011-02  
 JP 2005015809 A 20050120 (200508) 127 C09D011-00  
 US 2005016417 A1 20050127 (200509) C09D011-00  
 US 6860931 B2 20050301 (200516) C09D011-02

ADT EP 1491596 A1 EP 2004-12372 20040525; CA 2472113 A1 CA 2004-2472113  
 20040622; JP 2005015809 A JP 2004-190286 20040628; US 2005016417 A1 US  
 2003-606705 20030626; US 6860931 B2 US 2003-606705 20030626

PRAI US 2003-606705 20030626  
 IC ICM C09D011-00; C09D011-02  
 ICS B41J002-01; B41M005-00; C09B011-00; C09D011-12

AB EP 1491596 A UPAB: 20050128  
 NOVELTY - A phase change **ink** composition comprises a phase  
 change **ink** carrier and a chromogen colorant compound.  
 DETAILED DESCRIPTION - A phase change **ink** composition  
 comprises a phase change **ink** carrier and a chromogen colorant  
 compound of formula (I) or (II).  
 R1 - R4 and R8 - R10 = H, alkyl, aryl, arylalkyl, or alkylaryl;  
 R1+R2 and R3+R4 = a ring;  
 a and b = 0 - 3;  
 c = 0 - 4;  
 R5 - R7 = aryl, (aryl)alkyl, alkylaryl, halo, ester, amide, sulfone,  
 amine, ammonium, nitrile, nitro, hydroxy, cyano, pyridine, pyridinium,  
 ether, aldehyde, ketone, carbonyl, thiocarbonyl, sulfate, sulfide,  
 sulfoxide, phosphine, phosphonium, phosphate, mercapto, nitroso, acyl,  
 acid anhydride, azide, azo, (iso)cyanato, (iso)thiocyanato, urethane, or  
 urea;  
 Y = O, S, N(R8), or C(R9) (R10);  
 Q = COOH or SO3H;  
 Q- = COO-, or SO3-;  
 d = 1 - 5;  
 A = an anion;  
 CA = H or a cation associated with all but one of the Q-.

The number of carbon atoms in R1+R2+R3+R4+R5+R6+R7+R8+R9+R10 is at  
 least 16. Provided that: when the colorant compound is a compound of  
 formula (III) - (IV) (where T1 is COOR12, SO3R13, C(O)NR14R15, or  
 SO2R16R17; T2 is T1 and SO3; and R12 - R17 are alkyl, aryl, arylalkyl, or  
 alkylaryl), then 1) either c is 0 - 3 or d is 1 - 4; and 2) either three  
 of R1 - R4 are H, only one of R1 - R4 is H, R1 and R2 both are H, R3 and  
 R4 are both H, or R1 and R3 are both H and R2 and R4 are alkyl or  
 arylalkyl. An INDEPENDENT CLAIM is included for process involving:  
 (a) incorporating into an **ink** jet printing apparatus a

phase change ink composition;

(b) melting the ink; and

(c) causing droplets of the melted ink to be ejected in an imagewise pattern onto a substrate.

USE - In hot melt or phase change inks useful for applications e.g. postal marking, industrial marking and labeling.

ADVANTAGE - The composition exhibits desirable thermal stability, desirable brilliance, desirable hue, desirable chroma, high lightfastness characteristics, minimal undesirable discoloration when exposed to elevated temperatures, desirably pleasing color, desirable solubility characteristics, and oxidative stability; gives cost effective inks; generates images with low pile height; generates images with sharp edges that remain sharp over time; generates images which retain their high image quality in warm climates; and generates images having high optical density. The composition does not lead to clogging of a phase change ink jet printhead, when incorporated into phase change ink.

Dwg.0/0

FS CPI EPI

FA AB; GI; DCN

MC CPI: E25-E01; E25-E02; G02-A04A

EPI: T04-G02C

L66 ANSWER 12 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2005-059437 [07] WPIX

DNN N2005-051680 DNC C2005-021040

TI Composition for hot melt or phase change inks e.g. for postal marking, industrial marking and labelling comprises a phase change ink carrier and a chromogen colorant compound.

DC E24 G02 P75 T04

IN ~~BANNING, J H~~; BRIDGEMAN, R R; DUFF, J M; THOMAS, J W; WEDLER, W G; WU, B

PA (XERO) XEROX CORP

CYC 36

PI EP 1491595 A1 20041229 (200507)\* EN 275 C09D011-00

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IT LI LT LU

LV MC MK NL PL PT RO SE SI SK TR

US 6835238 B1 20041228 (200507) C09D011-02

US 2004261657 A1 20041230 (200507) C09D011-00

CA 2471533 A1 20041226 (200508) EN C09D011-02

JP 2005015807 A 20050120 (200508) 125 C09D011-00

ADT EP 1491595 A1 EP 2004-11823 20040518; US 6835238 B1 US 2003-606631

20030626; US 2004261657 A1 US 2003-606631 20030626; CA 2471533 A1 CA

2004-2471533 20040618; JP 2005015807 A JP 2004-190164 20040628

PRAI US 2003-606631 20030626

IC ICM C09D011-00; C09D011-02

ICS B41J002-01; B41M005-00; C09D011-12

AB EP 1491595 A UPAB: 20050128

NOVELTY - A phase change ink composition comprises a phase change ink carrier and a chromogen colorant compound.

DETAILED DESCRIPTION - A phase change ink composition comprises a phase change ink carrier and a chromogen colorant compound of formula (I).

M = metal ion having positive charge of at least 2, or metal-containing moiety;

z = at least 2;

R1 - R4 and R8 - R10 = H, alkyl, aryl, arylalkyl, or alkylaryl;

R1+R2 and R3+R4 = a ring;

a and b = 0 - 3;

c = 0 - 4;

R5 - R7 = aryl, (aryl)alkyl, alkylaryl, halo, ester, amide, sulfone,

amine, ammonium, nitrile, nitro, hydroxy, cyano, pyridine, pyridinium, ether, aldehyde, ketone, carbonyl, thiocarbonyl, sulfate, sulfide, sulfoxide, phosphine, phosphonium, phosphate, mercapto, nitroso, acyl, acid anhydride, azide, azo, (iso)cyanato, (iso)thiocyanato, urethane, or urea;

Y = O, S, N(R8), or C(R9) (R10);

Q- = COO-, or SO3-;

d = 1 - 5;

A = an anion;

CA = H or a cation associated with all but one of the Q-.

The number of carbon atoms in R1+R2+R3+R4+R5+R6+R7+R8+R9+R10 is at least 16.

An INDEPENDENT CLAIM is included for process involving:

- (a) incorporating into an **ink** jet printing apparatus a phase change **ink** composition;
- (b) melting the **ink**; and
- (c) causing droplets of the melted **ink** to be ejected in an imagewise pattern onto a substrate.

USE - In hot melt or phase change **inks** useful for applications e.g. postal marking, industrial marking and labeling.

ADVANTAGE - The composition exhibits desirable thermal stability, desirable brilliance, desirable hue, desirable chroma, high lightfastness characteristics, minimal undesirable discoloration when exposed to elevated temperatures, desirably pleasing color, desirable solubility characteristics, and oxidative stability; gives cost effective **inks**; generates images with low pile height; generates images with sharp edges that remain sharp over time; generates images which retain their high image quality in warm climates; and generates images having high optical density. The composition does not lead to clogging of a phase change **ink** jet printhead, when incorporated into phase change **ink**.

Dwg.0/0

FS CPI EPI GMPI

FA AB; GI; DCN

MC CPI: E10-D03A; E10-D03D; E25-E02; E26-B; G02-A04A

EPI: T04-G02C

L66 ANSWER 13 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2004-358359 [34] WPIX

DNN N2004-286677 DNC C2004-135870

TI Phase change **ink** composition useful for e.g. **inkjet** printers for color printing, comprises phase change **ink** carrier and brominated alcohol-substituted colorant compound.

DC A17 A21 A25 A97 E24 G02 P75 T04

IN BANNING, J H; JAEGER, C W

PA (XERO) XEROX CORP

CYC 34

PI EP 1403336 A1 20040331 (200434)\* EN 139 C09D011-00

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV

MC MK NL PT RO SE SI SK TR

JP 2004115801 A 20040415 (200434) 85 C09D011-00

US 2004102540 A1 20040527 (200435) C03C017-00

BR 2003004236 A 20040908 (200462) C09D011-02

US 6821327 B2 20041123 (200477) C09D011-00

ADT EP 1403336 A1 EP 2003-21687 20030929; JP 2004115801 A JP 2003-331656 20030924; US 2004102540 A1 US 2002-260376 20020927; BR 2003004236 A BR 2003-4236 20030924; US 6821327 B2 US 2002-260376 20020927

PRAI US 2002-260376 20020927

IC ICM C03C017-00; C09D011-00; C09D011-02

ICS B41J002-01; B41M005-00; C09B001-50; C09B001-514; C09D005-00;

C09D005-03

AB EP 1403336 A UPAB: 20040527

NOVELTY - A phase change **ink** composition useful for **inkjet** printers for color printing comprises a phase change **ink** carrier, and a brominated alcohol-substituted colorant compound (1) that has desirable magenta color and good light fastness, and exhibits desirable solubility characteristics.

DETAILED DESCRIPTION - A phase change **ink** composition comprises a phase change **ink** carrier and a colorant compound of formula (1).

Y = a hydrogen atom or a bromine atom;

n = 0, 1, 2, 3 or 4;

R1 = an alkylene or an arylalkylene;

X = a hydrogen atom; a group having a formula -C(O)-R2; an alkyleneoxy, aryleneoxy, arylalkyleneoxy or alkylaryleneoxy; or a group having a formula -C(O)-NH-R4; where

R2 and R4 = an alkyl, an aryl, an arylalkyl or an alkylaryl;

An INDEPENDENT CLAIM is also included for a process comprising incorporating into an **ink** jet printing apparatus a phase change **ink** composition as above; melting the **ink**; and causing droplets of the melted **ink** to be ejected in an imagewise pattern onto a substrate.

USE - Phase change **ink** useful for **inkjet** printers for color printing, and for postal marking and industrial marking and labeling.

ADVANTAGE - The phase change composition uses colorant compounds that have desirable magenta color, have good light fastness, exhibit desirable solubility characteristics, and when incorporated into phase change **inks**, exhibit reduced migration within a layer of printed **ink**, enable the production of prints that maintain uniform color over long periods of time without unevenness or blotching, retain their original color over long periods of time, exhibit reduced sensitivity to image discoloration upon contact with human fingertips, and exhibit reduced crystallization within a layer of printed **ink**. The colorant compounds can be incorporated into phase change **inks** in desirably high concentrations, can be manufactured easily and practically, and can easily be converted to derivative molecules.

Dwg.0/0

FS CPI EPI GMPI

FA AB; GI; DCN

MC CPI: A12-W07D1; E22-C01; E22-C02; G02-A04A; G05-F03

EPI: T04-G02C; T04-G07

L66 ANSWER 14 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:678873 HCAPLUS

DN 139:214917

ED Entered STN: 29 Aug 2003

TI Segmented copolymer containing amide segments, composition for moldings and fibers

IN Gaymans, Reinoud Jaap; Krijgsman, Josien; Husken, Debby

PA Universiteit Twente, Neth.

SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08G069-00

ICS C08G069-40; C08L077-00; C08G065-00

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 40

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003070807	A1	20030828	WO 2003-NL130	20030220
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1476490	A1	20041117	EP 2003-705524	20030220
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
PRAI	EP 2002-75698	A	20020221		
	EP 2002-78788	A	20020913		
	WO 2003-NL130	W	20030220		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003070807	ICM	C08G069-00
	ICS	C08G069-40; C08L077-00; C08G065-00

AB Amide block copolymers have uniform length of  $\geq 3$  amide segments and a glass transition temperature  $< 0^\circ$ . A copolymer displays a fast crystallization

from the melt, and a modulus that is little dependent on the temperature in the temperature region between glass transition and melting temperature. This block polymer can easily be melt processed by extrusion, injection molding, and fiber spinning and have characteristics of transparency, high fracture strain, and high elasticity.

ST block polyoxytetramethylene **tetraamide** prepn molding fiber

IT Polycarbonates, uses

Polyesters, uses

Polyoxymethylenes, uses

Polyoxyphenylenes

Polyureas

**Polyurethanes**, uses

RL: POF (Polymer in formulation); USES (Uses)

(block copolymer containing oligoamide segments for moldings and fibers)

IT Extruded plastics

RL: TEM (Technical or engineered material use); USES (Uses)

(block copolymer containing oligoamide segments for moldings and fibers)

IT Molded plastics, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(block copolymer containing oligoamide segments for moldings and fibers)

IT Adhesives

(hot-melt; block copolymer containing oligoamide segments for moldings and fibers)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamide-, block, fiber; block copolymer containing oligoamide segments for moldings and fibers)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyamide-, block; block copolymer containing oligoamide segments for moldings and fibers)

- IT Synthetic polymeric fibers, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyoxyalkylenes, block; block copolymer containing oligoamide segments for moldings and fibers)
- IT Polyethers, uses  
 RL: POF (Polymer in formulation); USES (Uses)  
 (polyester-; block copolymer containing oligoamide segments for moldings and fibers)
- IT Polyesters, uses  
 RL: POF (Polymer in formulation); USES (Uses)  
 (polyether-; block copolymer containing oligoamide segments for moldings and fibers)
- IT Polyamide fibers, preparation  
 Polyamides, preparation  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyoxyalkylene-, block; block copolymer containing oligoamide segments for moldings and fibers)
- IT 587875-96-5P 587875-97-6P 587875-98-7P 587876-04-8P 587876-05-9P  
 587876-06-0P 587876-07-1P 587876-09-3P 587876-11-7P 587876-12-8P  
 587876-13-9P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (block copolymer containing oligoamide segments for moldings and fibers)
- IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6,  
 Polystyrene 106107-54-4, Butadiene-styrene block copolymer  
 RL: POF (Polymer in formulation); USES (Uses)  
 (block copolymer containing oligoamide segments for moldings and fibers)
- IT 587875-95-4P 587876-00-4P 587876-01-5P 587876-02-6P 587876-03-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (prepare and polymerization; block copolymer containing oligoamide segments for moldings and fibers)
- IT 17197-13-6P 22734-32-3P 65775-38-4P 111623-75-7P 587875-99-8P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
 (reaction with Me Ph terephthalate; block copolymer containing oligoamide segments for moldings and fibers)
- IT 124-09-4, 1,6-Diaminohexane, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with di-Me terephthalate; block copolymer containing oligoamide segments for moldings and fibers)
- IT 6725-72-0, Methyl phenyl terephthalate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with diamide; block copolymer containing oligoamide segments for moldings and fibers)
- IT 120-61-6, Dimethyl terephthalate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with diaminohexane; block copolymer containing oligoamide segments for moldings and fibers)
- RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
- RE
- (1) Guang, L; POLYMER 1997, V38(19), P4891 HCAPLUS
  - (2) Niesten, M; POLYMER 2000, V41(24), P8487 HCAPLUS
  - (3) Niesten, M; POLYMER 2001, V42(4), P1461 HCAPLUS
  - (4) Niesten, M; POLYMER 2001, V42(3), P931 HCAPLUS
  - (5) Speranza, G; US 5140097 A 1992 HCAPLUS

L66 ANSWER 15 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2003-863679 [80] WPIX  
 CR 1998-054860 [06]; 1998-054881 [06]; 1998-054882 [06]; 1998-054883 [06];  
 1998-054884 [06]; 1999-123255 [11]; 1999-182485 [16]; 1999-397104 [34];  
 1999-446449 [38]; 1999-446450 [38]; 1999-446451 [38]; 2000-316904 [27];  
 2000-399013 [34]; 2001-407018 [43]; 2001-475285 [51]; 2004-398150 [37];  
 2004-432859 [41]; 2004-667213 [65]; 2004-707344 [69]  
 DNN N2003-689379 DNC C2003-244027  
 TI Isocyanate-derived material useful as ingredient in phase change  
 ink carrier compositions for making phase change ink jet  
 inks, contains solid reaction product of non-ethylenically  
 unsaturated monohydric alcohol, isocyanate and amine(s).  
 DC A25 A97 G02 P75 T04  
 IN BANNING, J H; BUI, L V; KING, C R; TITTERINGTON, D R  
 PA (BANN-I) BANNING J H; (BUIL-I) BUI L V; (KING-I) KING C R; (TITT-I)  
 TITTERINGTON D R; (XERO) XEROX CORP  
 CYC 1  
 PI US 2003164116 A1 20030904 (200380)\* 15 C09D004-00  
 US 6620228 B1 20030916 (200380) C09D011-02  
 ADT US 2003164116 A1 CIP of US 1996-672816 19960628, US 1998-78190 19980513;  
 US 6620228 B1 CIP of US 1996-672816 19960628, US 1998-78190 19980513  
 FDT US 2003164116 A1 CIP of US 5782966; US 6620228 B1 CIP of US 5782966  
 PRAI US 1998-78190 19980513; US 1996-672816 19960628  
 IC ICM C09D004-00; C09D011-02  
 ICS B41J002-01; C09D011-08; C09D011-10  
 AB US2003164116 A UPAB: 20041027  
 NOVELTY - An isocyanate-derived material comprises a solid reaction  
 product of non-ethylenically unsaturated monohydric alcohol, an isocyanate  
 and amine(s).  
 USE - The inventive material, i.e. urethane/urea mixture, is useful  
 as an ingredient in phase change ink carrier compositions. The  
 carrier composition is used to make phase change ink jet  
 inks that can be employed in direct or indirect printing  
 applications.  
 ADVANTAGE - The inventive material can be design engineered to obtain  
 desired properties for specific printing platforms and architectures. It  
 is very pure, being free of salts and other insoluble contaminants. It can  
 be used in combinations with other phase change ink carrier  
 materials to obtain ink compositions that display improved yield  
 stress versus temperature curves over conventional ink  
 compositions. It is a non-ethylenically unsaturated stable solid, and is  
 transparent. It may be substituted for one or more components in prior  
 fatty amide containing phase change inks, e.g. the tetra  
 -amide, mono-amide, tackifier, or plasticizer components.  
 Dwg.0/1  
 FS CPI EPI GMPI  
 FA AB  
 MC CPI: A10-E01; A12-W07D1; G02-A04A; G05-F03  
 EPI: T04-G02C

L66 ANSWER 16 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2004-166477 [16] WPIX  
 DNN N2004-132617 DNC C2004-065997  
 TI Phase change ink composition for direct printing ink  
 processes and indirect printing ink jet applications, comprises  
 a phase change ink carrier and colorant compound with two  
 azopyridone chromophores.  
 DC A18 A28 A97 D18 E24 G02 T04  
 IN BANNING, J H; CARLINI, R; DUFF, J M; MAYO, J D; MEINHARDT, M B; SMITH, P  
 F; THOMAS, J W; WU, B

PA (XERO) XEROX CORP

CYC 35

PI US 6663703 B1 20031216 (200416)\* 57 C09D011-00  
 CA 2433168 A1 20031227 (200416) EN C09D011-02  
 EP 1375610 A1 20040102 (200416) EN C09D011-00  
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
 MC MK NL PT RO SE SI SK TR  
 JP 2004027231 A 20040129 (200416) 61 C09D011-00  
 BR 2003002125 A 20040817 (200457) C09D011-02  
 ADT US 6663703 B1 US 2002-184269 20020627; CA 2433168 A1 CA 2003-2433168  
 20030625; EP 1375610 A1 EP 2003-14094 20030623; JP 2004027231 A JP  
 2003-175938 20030620; BR 2003002125 A BR 2003-2125 20030627  
 PRAI US 2002-184269 20020627  
 IC ICM C09D011-00; C09D011-02  
 ICS C09B035-03; C09B035-031  
 AB US 6663703 B UPAB: 20040305

NOVELTY - A phase change **ink** composition comprises a phase change **ink** carrier and specific colorant compound (I) with two azopyridone chromophores.

DETAILED DESCRIPTION - A phase change **ink** composition comprises a phase change **ink** carrier and colorant compound of formula (I).

R1 = alkylene, arylene, arylalkylene, alkylarylene, alkyleneoxy, aryleneoxy, arylalkyleneoxy, alkylaryleneoxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic group, silylene, siloxane, polysilylene or polysiloxane;

R2 and R'2 = alkyl, aryl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkyloxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic group, silyl group, siloxane group, polysilylene group, polysiloxane group or group of formula  $-(CH_2)_r-X-C(=O)-(CH_2)_sCH_3$  (r and s = integers representing number of repeat  $-CH_2-$  groups);

R3 and R'3 = alkyl, aryl, arylalkyl or alkylaryl group;

X and X' = direct bond, oxygen bond, sulfur atom,  $-NR_{40}-$  (R40 = hydrogen atom, alkyl, aryl, arylalkyl or alkylaryl),  $-CR_{50}R_{60}-$  (R50 and R60 = R40); and

Z' and Z'' = hydrogen atom, halogen atom, nitro group, alkyl, aryl, arylalkyl, alkylaryl,  $-C(=O)-R_{70}$  (R70 = as R2 except for (Ia)), sulfonyl of formula  $-SO_2R_{80}$  (R80 = hydrogen atom, alkyl, arylalkyl, alkylaryl, alkoxy, aryloxy, arylalkoxy, alkylaryloxy, polyalkyleneoxy, polyaryleneoxy, polyarylalkyleneoxy, polyalkylaryleneoxy, heterocyclic group, silyl group, siloxane group, polysilylene group or polysiloxane group) or phosphoric group of formula  $-PO_3R_{90}$  (R90 = as R80).

An INDEPENDENT CLAIM is also included for a process incorporating a phase change **ink** composition in an **inkjet** printing apparatus.

USE - **Ink** for direct printing **ink** processes and indirect (offset) printing **ink** jet applications, and for printing processes other than hot melt **ink** jet printing processes.

ADVANTAGE - The amount of colorant used in the **ink** composition is reduced, without decreasing its color and spectral properties or jeopardizing the optical density or color of prints generated with the **ink**. The reduction of the colorant amounts results in cost-effective **inks**. The colorant imparts thermal and chemical stability to the **ink**. The two azopyridone chromophores increase the spectral strength of the colorant. The phase change **ink** enables application of a thin film of uniform thickness on the final recording substrate, then to be ductile at the time of retaining favorable flexibility so that the applied image does not fracture upon



bending, and to possess high degree of lightness, chroma, transparency and thermal stability.

Dwg.0/0

FS CPI EPI

FA AB; GI; DCN

MC CPI: A10-E01; A12-W07D1; D07-B; E10-D03; E10-D03C3; E21-C21; G02-A04A  
EPI: T04-G02C

L66 ANSWER 17 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 2003-814975 [77] WPIX

DNN N2003-652318 DNC C2003-226974

TI Phase change **ink** composition for **ink** jet printers,  
comprises phase change **ink** carrier and phthalocyanine colorant  
compound.

DC A97 E23 G02 P75 T04

IN BANNING, J H; DUFF, J M; FRAME, H R; GAYNOR, R E; MAYO, J D; MEINHARDT, M  
B; TITTERINGTON, D R

PA (XERO) XEROX CORP

CYC 33

PI EP 1335006 A1 20030813 (200377)\* EN 57 C09D011-00  
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
MC MK NL PT RO SE SI SK TR

JP 2003277665 A 20031002 (200377) 23 C09D011-00

US 2003172841 A1 20030918 (200377) C09D011-12

US 6726755 B2 20040427 (200429) C09D011-12

ADT EP 1335006 A1 EP 2003-2835 20030207; JP 2003277665 A JP 2003-27867  
20030205; US 2003172841 A1 US 2002-72210 20020208; US 6726755 B2 US  
2002-72210 20020208

PRAI US 2002-72210 20020208

IC ICM C09D011-00; C09D011-12

ICS B41J002-01; B41M005-00

ICA C09B047-18

AB EP 1335006 A UPAB: 20031128

NOVELTY - A phase change **ink** composition comprises a phase  
change **ink** carrier and a phthalocyanine colorant compound (I)

DETAILED DESCRIPTION - A phase change **ink** composition  
comprises a phase change **ink** carrier and a colorant compound of  
formula (I).

M = atom or group of atoms capable of bonding to the central cavity  
of a phthalocyanine molecule, where axial ligands optionally can be  
attached to M;

R = 3-(n-pentadecyl)phenoxy

An INDEPENDENT CLAIM is also included for a process comprising:

(a) incorporating into an **ink** jet printing apparatus a  
phase change **ink** composition comprising a phase change  
**ink** carrier and (I);

(b) melting the **ink**; and

(c) causing droplets of the melted **ink** to be ejected in an  
imagewise pattern onto a substrate.

USE - **Ink** for **ink** jet printers and gravure  
printing. The phase change **ink** composition is also useful for  
postal marking, industrial marking and labeling.

ADVANTAGE - The phase change **ink** composition remains in a  
solid phase at room temperature during shipping or long term storage, but  
exists in the liquid phase at the elevated operating temperature of an  
**ink** jet printing device.

Dwg.0/0

FS CPI EPI GMPI

FA AB; GI; DCN

MC CPI: A12-W07E; E10-D03A; E10-D03C3; E23-B; G02-A04A; G02-A04B; G05-F03

EPI: T04-G02C

L66 ANSWER 18 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2002-401808 [43] WPIX  
 DNN N2002-314961 DNC C2002-113104  
 TI New furanone magenta colorant, useful in phase change **ink**,  
 comprises a furanone magenta chromophore with an adduct containing oligo-  
 or poly-alkoxylated or -aryloxylated phenyl radical(s).  
 DC A25 A97 E24 G02 T04  
 IN ~~BANNING, J H~~; KING, C R  
 PA (XERO) XEROX CORP  
 CYC 1  
 PI US 6350305 B1 20020226 (200243)\* 10 C09D011-02  
 ADT US 6350305 B1 Div ex US 1998-188010 19981106; US 1999-416208 19991008  
 PRAI US 1998-188010 19981106; US 1999-416208 19991008  
 IC ICM C09D011-02  
 ICS C07D307-52; C07D307-58; C09D011-10  
 AB US 6350305 B UPAB: 20020709  
 NOVELTY - A new furanone magenta colorant comprises a furanone magenta  
 chromophore with an adduct containing oligo- or poly-alkoxylated or  
 -aryloxylated phenyl radical(s). The chromophore is derived from aromatic  
 aldehyde(s) having a para-nitrogen and containing electron-donating groups  
 selected from alkyl, cycloalkyl and oligomers or polymers derived from  
 alkyleneoxy or aryleneoxy groups.  
 DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:  
 (A) A process for making the colorant.  
 (B) A phase change **ink** composition comprising a carrier and  
 the colorant.  
 USE - The colorant is used in a phase change **ink** (claimed).  
 ADVANTAGE - The colorant is non-migrating and retains the other  
 advantages of this class of polymeric dye. It can be prepared by a  
 commercially viable process which avoids the use of hazardous starting  
 materials and intermediates.  
 Dwg.0/0  
 FS CPI EPI  
 FA AB; GI; DCN  
 MC CPI: A12-W07D; E24-B; E25; G02-A04B  
 EPI: T04-G02C

L66 ANSWER 19 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 2001-452957 [49] WPIX  
 CR 2001-157961 [16]; 2003-566458 [53]  
 DNC C2001-136919  
 TI Formulation used in solid imaging materials and phase change **inks**  
 comprises a linear alkyl urethane to control viscosity, and components to  
 promote adhesion, impart toughness and control thermal distortion of the  
 jetted formulation.  
 DC A25 A97 E19 G02  
 IN BUI, L V; DOAN, V; KWO, K; NGUYEN, M T  
 PA (THRE-N) 3D SYSTEMS INC  
 CYC 28  
 PI EP 1099734 A1 20010516 (200149)\* EN 26 C09D011-00  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI TR  
 JP 2001214098 A 20010807 (200150) 52 C09D011-00  
 US 6395811 B1 20020528 (200243) C08J003-00  
 ADT EP 1099734 A1 EP 2000-310066 20001113; JP 2001214098 A JP 2000-345730  
 20001113; US 6395811 B1 CIP of US 1999-439263 19991111, US 2000-547160  
 20000411  
 FDT US 6395811 B1 CIP of US 6133353

PRAI US 2000-547160 20000411; US 1999-439263 19991111

IC ICM C08J003-00; C09D011-00

ICS B41J002-01; B41M005-00; C08G018-28; C08G018-71; C08K005-205;  
C08L077-00; C08L091-06; C08L093-04; C08L101-00

AB EP 1099734 A UPAB: 20030820

NOVELTY - A formulation for use in jetting from a print head comprises components to:

- (a) control the viscosity of the formulation;
- (b) promote adhesion to a substrate;
- (c) impart toughness to the formulation; and
- (d) control thermal distortion, shrinkage or thermal runaway of the jetted formulation.

Component (a) is a linear alkyl urethane.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) A solid imaging material for use in three-dimensional model rapid prototyping, comprising the formulation.

(2) A urethane polyamide that is the reaction product of a fatty acid reactant, an amine and an isocyanate.

USE - The resin/wax formulation is used in solid imaging materials for the rapid prototyping industry, and in phase change ink compositions

ADVANTAGE - The urethanes or isocyanate-derived waxes can be design engineered to obtain desired properties for specific printing or rapid prototyping platforms and architectures. The low-viscosity isocyanate-derived waxes permit the use of higher molecular weight resins to obtain a tougher formulation. The ink compositions and solid imaging materials exhibit improved yield stress.

Dwg.0/0

FS CPI

FA AB; DCN

MC CPI: A05-G01E; A12-W07D; E09-D01; E10-A12C2; G02-A04A

L66 ANSWER 20 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 2

AN 2000:736268 HCAPLUS

DN 133:310441

ED Entered STN: 18 Oct 2000

TI Phase change ink containing  
diurethane tetraamide solubilizing agent

IN Bui, Loc V.; Nguyen, My T.

PA 3D Systems, Inc., USA

SO U.S., 9 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08K005-16

NCL 524198000

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 42

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6133353	A	20001017	US 1999-439263	19991111
	US 6395811	B1	20020528	US 2000-547160	20000411
	US 6528613	B1	20030304	US 2000-603213	20000626
	EP 1099734	A1	20010516	EP 2000-310066	20001113
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001214098	A2	20010807	JP 2000-345730	20001113
PRAI	US 1999-439263	A2	19991111		
	US 2000-547160	A	20000411		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6133353	ICM	C08K005-16
	NCL	524198000
US 6133353	ECLA	C08K005/29+L77/00; C09D011/00C4
US 6395811	ECLA	C08G018/28D5C3; C08G018/38F3; C08G018/71; C08G069/34; C08K005/00P+L77/00; C08K005/205+L77/00; C08K005/29+L77/00; C09D011/00C4
US 6528613	ECLA	C08G018/28D5C3; C08G018/71; C08G069/34; C08K005/00P+L77/00; C08K005/205+L77/00; C08K005/29+L77/00; C09D011/00C4; C08G018/38F3
EP 1099734	ECLA	C09D011/00C4
AB		A solubilizing agent <b>diurethane tetraamide</b> is prepared by reacting selected nucleophiles, including fatty acid reactants and amines with an <b>isocyanate</b> . The polyamide solubilizing agent is useful as an ingredient or as carrier compns. used to make hot melt ink jet inks. Thus, the reaction product of 12-hydroxystearic acid, stearic acid, ethylenediamine, and isophorone diisocyanate had a m.p. 133° and viscosity (150°) 87.1 cP.
ST		<b>diurethane tetraamide</b> solubilizing agent hot melt ink
IT		<b>Urethanes</b> RL: IMF (Industrial manufacture); PREP (Preparation) (amide-; <b>urethane</b> amide solubilizing agent for hot melt printing inks used in rapid prototyping and design)
IT		<b>Inks</b> (hot-melt; <b>urethane</b> amide solubilizing agent for hot melt printing inks used in rapid prototyping and design)
IT		Polyamides, uses RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses) (ink binder; <b>urethane</b> amide solubilizing agent for hot melt printing inks used in rapid prototyping and design)
IT		Tackifiers ( <b>urethane</b> amide solubilizing agent for hot melt printing inks used in rapid prototyping and design)
IT		57-11-4DP, Stearic acid, reaction products with <b>isocyanate</b> and amines 101-68-8DP, MDI, reaction products with amines and fatty acids 106-14-9DP, 12-Hydroxystearic acid, reaction products with <b>isocyanate</b> and amines 107-15-3DP, Ethylenediamine, reaction products with <b>isocyanate</b> and fatty acids 109-76-2DP, 1,3-Propylenediamine, reaction products with <b>isocyanate</b> and fatty acids 111-57-9DP, reaction products with <b>isocyanate</b> and fatty acids 694-83-7DP, 1,2-Diaminocyclohexane, reaction products with <b>isocyanate</b> and fatty acids 4098-71-9DP, Isophorone diisocyanate, reaction products with amines and fatty acids 52276-54-7DP, Desmodur H, reaction products with amines and fatty acids 55488-38-5DP, 1,6-Dicyanatohehexane, reaction products with amines and fatty acids 137605-95-9DP, 2-Butyl-2-ethyl-1,5-pentanediamine, reaction products with <b>isocyanate</b> and fatty acids 301670-43-9P 301670-44-0P RL: IMF (Industrial manufacture); PREP (Preparation) ( <b>urethane</b> amide solubilizing agent for hot melt printing inks used in rapid prototyping and design)
RE.CNT	61	THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE		
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		(2) Anon; EP 0187352 A2 1986 HCAPLUS

- (3) Anon; EP 0206286 A1 1986 HCAPLUS
- (4) Anon; DE 4205636 A1 1993
- (5) Anon; DE 4205713 A1 1993 HCAPLUS
- (6) Anon; WO 9404619 1994 HCAPLUS
- (7) Anon; WO 9414902 1994 HCAPLUS
- (8) Anon; GB 2294939 1996 HCAPLUS
- (9) Anon; WO 9602399 1996
- (10) Anon; WO 9602446 1996
- (11) Anon; WO 9610051 1996 HCAPLUS
- (12) Anon; WO 9712003 1997 HCAPLUS
- (13) Anon; EP 0819739 A2 1998 HCAPLUS
- (14) Anon; EP 0844287 A1 1998 HCAPLUS
- (15) Anon; EP 0869161 A2 1998 HCAPLUS
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- (22) Bui; US 5389958 1995
- (23) Connolly; US 4889506 1989
- (24) Cuscurida; US 4293470 1981 HCAPLUS
- (25) Drawert; US 5162490 1992 HCAPLUS
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- (27) Falcone; US 4381403 1983 HCAPLUS
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- (30) Griebel; US 5496879 1996 HCAPLUS
- (31) Herting; US 5141749 1992 HCAPLUS
- (32) Herting; US 5208034 1993 HCAPLUS
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- (34) Jaeger; US 5507864 1996 HCAPLUS
- (35) Jaeger; US 5621022 1997 HCAPLUS
- (36) Jaeger; US 5902841 1999 HCAPLUS
- (37) Kausga; US 4555357 1985 HCAPLUS
- (38) Markusch; US 5389720 1995 HCAPLUS
- (39) McCoy; US 4501915 1985 HCAPLUS
- (40) Merger; US 4537960 1985 HCAPLUS
- (41) Merritt; US 4390369 1983 HCAPLUS
- (42) Merritt; US 4484948 1984 HCAPLUS
- (43) Noomen; US 4011311 1977 HCAPLUS
- (44) Oliver; US 5593486 1997 HCAPLUS
- (45) Patton; US 4334032 1982 HCAPLUS
- (46) Pavlin; US 5881648 1999 HCAPLUS
- (47) Rise; US 5195430 1993
- (48) Schultheis; US 3012991 1961
- (49) Schwarz; US 5006170 1991 HCAPLUS
- (50) Schweitzer; US 2409712 1946 HCAPLUS
- (51) Slack; US 4810820 1989 HCAPLUS
- (52) Taniguchi; US 4851045 1989 HCAPLUS
- (53) Titterington; US 4889761 1989
- (54) Titterington; US 5372852 1994 HCAPLUS
- (55) Titterington; US 5780528 1998 HCAPLUS
- (56) Titterington; US 5919839 1999 HCAPLUS
- (57) Tobias; US 5286288 1994 HCAPLUS
- (58) Tortorello; US 4665146 1987 HCAPLUS
- (59) Williams; US 5221335 1993 HCAPLUS
- (60) You; US 5151120 1992 HCAPLUS
- (61) Yu; US 5597856 1997 HCAPLUS

L66 ANSWER 21 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 3  
 AN 2000:900287 HCAPLUS  
 DN 134:57940  
 ED Entered STN: 22 Dec 2000  
 TI Metal phthalocyanine **colorants for phase change inks**  
 IN King, Clifford R.; Titterington, Donald R.; Banning, Jeffery H.  
 PA Xerox Corporation, USA  
 SO Eur. Pat. Appl., 12 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C09B047-24  
 ICS C09B047-26; C09D011-00  
 CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1061104	A2	20001220	EP 2000-112693	20000615
	EP 1061104	A3	20030507		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6221137	B1	20010424	US 1999-336135	19990618
	JP 2001011352	A2	20010116	JP 2000-169853	20000607
PRAI	US 1999-336135	A	19990618		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1061104	ICM	C09B047-24
	ICS	C09B047-26; C09D011-00
EP 1061104	ECLA	C09B047/24; C09B047/26; C09D011/00C4
US 6221137	ECLA	C09B047/24; C09B047/26; C09D011/00C4

OS MARPAT 134:57940

AB The invention relates to metal phthalocyanine tetraester chromogens and metal phthalocyanine **tetraamide** chromogens useful as **colorants for phase change inks**.  
 Thus, heating trimellitic anhydride chloride with Igepal CA 210 (octylphenyl ethoxylate) and then with urea in the presence of Cu sulfate, ammonium chloride and ammonium molybdate gave a **dye** which was mixed with a stearyl stearamide **wax** to give a solid ink

ST metallophthalocyanine **colorant phase change ink**; hot melt **ink colorant metal phthalocyanine; dye phthalocyanine tetraamide chromogen**

IT **Inks**  
 (metal phthalocyanine **colorants for phase change inks**)

IT Metallophthalocyanines  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (metal phthalocyanine **colorants for phase change inks**)

IT 313644-27-8P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (metal phthalocyanine **colorants for phase change inks**)

IT 57-13-6, Urea, reactions 1204-28-0 9036-19-5, Igepal CA 210

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactant; metal phthalocyanine **colorants** for **phase change inks**)

L66 ANSWER 22 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2000:207675 HCAPLUS  
DN 132:309021  
ED Entered STN: 31 Mar 2000  
TI Preparation and properties of poly(amide acid) gels  
AU Yamazaki, Osamu; Yamashita, Takashi; Horie, Kazuyuki  
CS Lintec Corporation, Warabi, 335, Japan  
SO Reactive & Functional Polymers (2000), 43(1,2), 173-181  
CODEN: RFPOF6; ISSN: 1381-5148  
PB Elsevier Science B.V.  
DT Journal  
LA English  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 35  
AB Poly(amide acid) gels were synthesized by the reaction of 3,3',4,4'-benzophenone tetracarboxylic dianhydride (BTDA) and bis(4-amino-3-ethylphenyl)methane (DEDPM) polyamic acid (BTDA-DEDPM) with **diisocyanates** as crosslinking agents. The **diisocyanates** used are hexamethylene **diisocyanate** [HMDI], m-xylylene **diisocyanate**, 4,4'-diphenylmethane **diisocyanate** (DMDI), and 3,3'-dimethylphenyl-4,4'-**diisocyanate** (DPDI). The crosslinking process was monitored using FTIR spectral data; the determining step is decarboxylation via reaction of carboxyl groups and **isocyanate** groups. The amount of **diisocyanate** had little effect on gelation time. The volume of the gels, i.e., extent of swelling, changed significantly in different solvents, e.g., N-methyl-2-pyrrolidinone [NMP]-water mixture. The solvent evaporated upon heating and imidization occurred.  
ST benzophenonecarboxylic anhydride ethylphenylmethane diamine polyamic acid prepn; **diisocyanate** crosslinking polyamic acid gel prepn thermal imidization; swelling polyamic acid **diisocyanate** gel methylpyrrolidone water  
IT Crosslinking agents  
(**diisocyanate**; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)  
IT Polyketones  
Polyketones  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(polyamic acid-; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)  
IT Polyamic acids  
Polyamic acids  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(polyketone-; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)  
IT Crosslinking  
Gelation  
Gels  
Glass transition temperature  
Swelling, physical  
(preparation and swelling and thermal properties of **diisocyanate**

- crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT Imidation  
(thermal; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 265329-85-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(model bis(amide acid) **isocyanate**; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 110105-15-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(model bis(amide acid); preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 6097-13-8P, N,N'-Diphenyl-3,3',4,4'-benzophenonetetracarboxylic diphthalimide  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(model imide; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 62-53-3, Benzenamine, reactions 2421-28-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(model reactant; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 265329-87-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(model **tetra-amide**; preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 201211-69-0P, 3,3',4,4'-Benzophenone tetracarboxylic dianhydride-bis(4-amino-3-ethylphenyl)methane-hexamethylene **diisocyanate** copolymer  
201211-71-4P, 3,3',4,4'-Benzophenone tetracarboxylic dianhydride-bis(4-amino-3-ethylphenyl)methane-3,3'-dimethylphenyl-4,4'-**diisocyanate** copolymer 265329-79-1P, 3,3',4,4'-Benzophenone tetracarboxylic dianhydride-bis(4-amino-3-ethylphenyl)methane-m-xylylene **diisocyanate** copolymer 265329-81-5P, 3,3',4,4'-Benzophenone tetracarboxylic dianhydride-bis(4-amino-3-ethylphenyl)methane-4,4'-diphenylmethane **diisocyanate** copolymer  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 110-78-1, n-Propyl-**isocyanate**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 201211-69-0DP, thermally imidized 201211-71-4DP, thermally imidized 265329-79-1DP, thermally imidized 265329-81-5DP, thermally imidized  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and swelling and thermal properties of **diisocyanate**-crosslinked poly(amide acid) gels and thermal imidization to polyimides)
- IT 872-50-4, uses 7732-18-5, Water, uses



RL: NUU (Other use, unclassified); USES (Uses)  
(swelling solvent; preparation and swelling and thermal properties of  
**diisocyanate**-crosslinked poly(amide acid) gels and thermal  
imidization to polyimides)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

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L66 ANSWER 23 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 1999-325944 [27] WPIX

CR 1994-202059 [25]; 1994-202060 [45]; 1994-202061 [25]; 1995-076072 [11];  
1995-345989 [45]; 1996-343517 [35]; 1998-017820 [02]; 1998-446409 [38];  
1998-520426 [44]; 1999-105249 [09]

DNC C1999-096322

TI Phase change ink composition.

DC A97 E24 G02 G05

IN BUI, L V; JAEGER, C W; TITTERINGTON, D R

PA (TEKT) TEKTRONIX INC

CYC 1

PI US 5902841 A 19990511 (199927)\* 16 C09D011-10

ADT US 5902841 A Div ex US 1992-981677 19921125, CIP of US 1994-231598  
19940422, CIP of US 1995-381610 19950130, US 1997-792207 19970131

FDT US 5902841 A Div ex US 5372852, CIP of US 5621022

PRAI US 1997-792207 19970131; US 1992-981677 19921125;  
US 1994-231598 19940422; US 1995-381610 19950130

IC ICM C09D011-10

AB US 5902841 A UPAB: 20011211

NOVELTY - The phase change ink comprises a colorant in  
combination with a selected phase change ink carrier composition  
containing at least one hydroxy-functional fatty amide compound.

DETAILED DESCRIPTION - The carrier composition includes at least one  
hydroxy-functional **tetra-amide** and/or  
hydroxy-functional mono-amide, and further includes a non-hydroxy  
functional **tetra-amide** compound and/or non-hydroxy  
functional mono-amide compound. The ink composition forms a  
solid phase at ambient temperature and a liquid phase at elevated  
operating temperature, has a high degree of lightness and chroma, and is  
rectilinearly light transmissive in a thin film of substantially uniform  
thickness. INDEPENDENT CLAIMS are also included for:

(a) a selective phase change ink composition which  
comprises a phase change ink colorant composition and a phase  
change ink carrier composition; and

(b) an ink composition for use with ink jet print  
heat comprising at least a colorant and an ink carrier  
composition, the ink composition being characterized by having a

temperature range in the rubbery region of E' of -10 to 100 deg. C, a value of E' of 1 asterisk 1-8 to 1.0 asterisk 1011 at a desired testing frequency and a glass transition temperature of -40 to 40 deg. C, where E' is determined by the equation  $E' = \frac{1}{1 + \cos \delta}$ ; wherein the ink carrier composition contains a hydroxy-functional fatty amide including at least one hydroxy-functional mono-amide compound with or without a mixture of a non-hydroxy functional mono-amide compound.

USE - The phase change inks are useful for ink jet printers.

ADVANTAGE - The ink is almost transparent and has improved reliability of printing and reduce nozzle clogging. The ink remains tough and flexible after being printed on paper from an ink jet printer. The use of the hydroxy-functional materials produces an intermediate metastable gel phase that allows the use of lower pressure during, the fusing and/or transfixing step in both direct and indirect printing.

Dwg.0/3

FS CPI  
FA AB; DCN  
MC CPI: A12-W07D; E10-B01E; E10-C04D5; E10-D03C; E25; G02-A04A; G05-F03

L66 ANSWER 24 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1997:276780 HCAPLUS  
DN 126:331689  
ED Entered STN: 30 Apr 1997  
TI Use of polymeric dyes in hot-melt ink-jet inks  
IN Jaeger, C. Wayne; Bui, Loc V.; Titterington, Donald R.; King, Clifford R.  
PA Tektronix, Inc., USA  
SO U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 231,598, abandoned.  
CODEN: USXXAM  
DT Patent  
LA English  
IC ICM C09D011-10  
NCL 523161000  
CC 42-12 (Coatings, Inks, and Related Products).  
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5621022	A	19970415	US 1995-381610	19950130
	US 5372852	A	19941213	US 1992-981677	19921125
	JP 06206368	A2	19940726	JP 1993-293648	19931124
	JP 3298272	B2	20020702		
	CA 2166012	AA	19960731	CA 1995-2166012	19951222
	CA 2166012	C	20000627		
	JP 08239612	A2	19960917	JP 1996-32805	19960126
	EP 723999	A1	19960731	EP 1996-300636	19960130
	EP 723999	B1	20030924		
		R: CH, DE, FR, GB, IT, LI			
	US 5902841	A	19990511	US 1997-792207	19970131
PRAI	US 1992-981677	A3	19921125		
	US 1994-231598	B2	19940422		
	US 1995-381610	A	19950130		

#### CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5621022	ICM	C09D011-10
	NCL	523161000
US 5621022	ECLA	B41J011/00C1; B41M003/00; B41M005/38K; B41M007/00; C09D011/00C; C09D011/00C4; C09D011/02
US 5372852	ECLA	B41J011/00C1; B41M003/00; B41M003/00C; B41M005/38K;

EP 723999 ECLA B41M007/00; C09D011/00C; C09D011/00C4; C09D011/02  
 US 5902841 ECLA C09D011/00C2D; C09D011/00C4  
 B41M005/38K; B41M007/00; C09D011/00C; C09D011/00C4;  
 C09D011/02

AB Title **inks** contain  $\geq 1$  of fatty tetra- and monoamides and polymeric **dyes** selected those having a polyoxyalkylene group and those having a polyoxyalkylene group and a carboxylic acid or nonreactive ester or amide group on the polyoxyalkylene group. These polymeric **dyes** are thermally stable and compatible with each other and conventional powdered **dyes** used in hot-melt **inks**. A typical **ink** contained N-stearylstearamide 568.7, Arakawa KE-311 resin 275.4, antioxidant 2.51, plasticizer 79.3, Milliken **Ink** Yellow 869 polymeric **dye** 60, and a dimer acid-based **tetraamide** 308.3 g.

ST hot melt jet printing **ink dye**; dimer acid amide jet printing **ink**; fatty amide jet printing **ink**; polyoxyalkylene **dye** jet printing **ink**

IT Amides, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (fatty, dimer-; hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

IT **Dyes**  
 (hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

IT Polyoxyalkylenes, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

IT **Inks**  
 (jet-printing, hot-melt; hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

IT Amides, uses  
 Carboxylic acids, uses  
 Esters, uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polyoxyalkylene group-containing; hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

IT 13276-08-9, Kemamide S-180 181493-69-6, **Ink** Black 8915-67  
 181493-70-9, **Ink** Blue 92 181493-71-0, **Ink** Red 357  
 181493-72-1, **Ink** Yellow 869 189641-47-2, Unirez 2970  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (hot-melt **ink-jet inks** containing polyoxyalkylene group-containing **dyes**)

L66 ANSWER 25 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1997:70264 HCAPLUS  
 DN 126:173164  
 ED Entered STN: 31 Jan 1997  
 TI Photochromic hot melt **ink** compositions  
 IN Oliver, John F.; Martin, Trevor I.; Jennings, Carol A.; Johnson, Eric G.; Drappel, Stephan V.  
 PA Xerox Corp., USA  
 SO U.S., 30 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM C09D011-02  
 NCL 106-22A  
 CC 42-12 (Coatings, **Inks**, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5593486	A	19970114	US 1995-567457	19951205
PRAI	US 1995-567457		19951205		

## CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 5593486	ICM NCL	C09D011-02 106-22A
AB	The title hot melt <b>ink</b> compns. comprise (a) an <b>ink</b> vehicle which is a solid at .apprx.25°C. and has a viscosity of 1-20 cP at a temperature suitable for hot melt <b>ink</b> jet printing, i.e., >45°, (b) a photochromic material (spiropyrans, spirooxazines, spirothiopyrans, bis-imidazole compds., bis-tetraphenyl pyrroles, hydrazine compds., aryl disulfide compds., stilbene compds., photoisomerizable azo compds., naphthacenequinones, and mixts.), (c) an optional <b>colorant</b> , and (d) an optional propellant. The compns. are typically used in <b>ink</b> -jet printers.		
ST	photochromic hot melt <b>ink</b> ; spiro compd photochromic <b>ink</b> ; <b>ink</b> jet printing		
IT	Alcohols, uses RL: TEM (Technical or engineered material use); USES (Uses) (C20-40, ethoxylated, Unithox 420; photochromic hot melt <b>ink</b> compns.)		
IT	Alcohols, uses RL: TEM (Technical or engineered material use); USES (Uses) (C30-50, ethoxylated; photochromic hot melt <b>ink</b> compns.)		
IT	Alkanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (branched; photochromic hot melt <b>ink</b> compns.)		
IT	Amides, uses RL: TEM (Technical or engineered material use); USES (Uses) (dimer acid, <b>tetraamide</b> ; photochromic hot melt <b>ink</b> compns.)		
IT	Alcohols, uses RL: TEM (Technical or engineered material use); USES (Uses) (ethoxylated; photochromic hot melt <b>ink</b> compns.)		
IT	Alcohols, uses RL: TEM (Technical or engineered material use); USES (Uses) (high mol. weight; photochromic hot melt <b>ink</b> compns.)		
IT	<b>Inks</b> (hot-melt; photochromic hot melt <b>ink</b> compns.)		
IT	Spiro compounds RL: TEM (Technical or engineered material use); USES (Uses) (oxazines; photochromic hot melt <b>ink</b> compns.)		
IT	<b>Ink</b> -jet printing Photochromic materials (photochromic hot melt <b>ink</b> compns.)		
IT	Alkanes, uses Amides, uses Hydrocarbon <b>waxes</b> , uses Naphthenes RL: TEM (Technical or engineered material use); USES (Uses) (photochromic hot melt <b>ink</b> compns.)		
IT	Azo compounds RL: TEM (Technical or engineered material use); USES (Uses) (photoisomerizable; photochromic hot melt <b>ink</b> compns.)		
IT	Spiro compounds Spiro compounds RL: TEM (Technical or engineered material use); USES (Uses)		

(pyrans; photochromic hot melt **ink** compns.)  
 IT Heterocyclic compounds  
 Heterocyclic compounds  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (spiropyrans; photochromic hot melt **ink** compns.)  
 IT Spiro compounds  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (thiopyrans; photochromic hot melt **ink** compns.)  
 IT 57-10-3, Hexadecanoic acid, uses 67-71-0, Dimethyl sulfone 288-32-4,  
 Imidazole, uses 1090-13-7D, Naphthacenequinone, derivs. 1498-88-0  
 9010-79-1, Ethylene-propylene copolymer 13276-08-9, Stearyl stearamide  
 27333-47-7 34417-10-2, Unithox 420 111530-37-1, Decyl sulfone  
 112430-79-2 157970-66-6, Ceramer 1608 187026-09-1 187026-10-4  
 187247-20-7, Petrolite CA 11 187247-22-9, Ceramer 5005  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (photochromic hot melt **ink** compns.)

L66 ANSWER 26 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN  
 AN 1997-108363 [10] WPIX  
 DNC C1997-034559  
 TI Hot melt **ink**, used on overhead transparency film or plain paper,  
 - containing an unsatd. bis-amide as a transparency enhancer and having good  
 light transmission, flexibility and durability.  
 DC A14 A97 E16 G02  
 IN SCHNITZEL, S; YU, K W  
 PA (DATA-N) DATAPRODUCTS CORP  
 CYC 1  
 PI US 5597856 A 19970128 (199710)\* 5 C08K005-20  
 ADT US 5597856 A US 1993-126578 19930924  
 PRAI US 1993-126578 19930924  
 IC ICM C08K005-20  
 ICS C09D011-02; C09D011-10; C09D011-12  
 AB US 5597856 A UPAB: 19970307  
 A hot melt **ink** comprises (a) a monoamide, (b) an unsatd. amide  
 and (c) a **tetra-amide**. Also claimed is a hot melt  
**ink** comprising an unsatd. bis-amide, carnauba wax, behenic acid,  
 acrylic resin and a colouring agent.  
 USE - On overhead transparency film, plain paper and backlit  
 displays.  
 ADVANTAGE - The formulation is highly light transmissive, flexible  
 and durable, has good adhesion to substrates, and may be used in  
 conventional hot melt **ink** printers or for regular printing.  
 Dwg.0/0  
 FS CPI  
 FA AB; DCN  
 MC CPI: A04-F01A; A12-D05B; A12-W07D; E10-D03; G02-A04A

L66 ANSWER 27 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 4  
 AN 1996:580075 HCAPLUS  
 DN 125:224756  
 ED Entered STN: 30 Sep 1996  
 TI Use of polymeric **dyes** in hot melt **ink** jet **inks**  
 IN Jaeger, Wayne C.; Bui, Loc V.; Titterington, Donald R.; King, Clifford R.  
 PA Tektronix, Inc., USA  
 SO Eur. Pat. Appl., 15 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C09D011-00  
 CC 42-12 (Coatings, **Inks**, and Related Products)

## FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 723999	A1	19960731	EP 1996-300636	19960130
	EP 723999	B1	20030924		
	R: CH, DE, FR, GB, IT, LI				
	US 5621022	A	19970415	US 1995-381610	19950130
PRAI	US 1995-381610	A	19950130		
	US 1992-981677	A3	19921125		
	US 1994-231598	B2	19940422		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 723999	ICM	C09D011-00
EP 723999	ECLA	C09D011/00C2D; C09D011/00C4
US 5621022	ECLA	B41J011/00C1; B41M003/00; B41M005/38K; B41M007/00; C09D011/00C; C09D011/00C4; C09D011/02

AB A phase change ink utilizes dyes modified by polyoxyalkylene substituents in combination with a selected phase change ink carrier composition. These inks exhibit good heat resistance and compatibility with themselves and other inks prepd from powdered dyes and provide durable print. A typical ink contained stearylstearamide 568.7, Arakawa KE-311 resin 275.4, plasticizer 79.3, Milliken Ink Yellow 869 polymeric dye 60, and a dimer acid-based tetraamide 308.3 g.

ST jet printing hot melt ink; phase change jet printing ink; polyoxyalkylene modified dye jet printing ink; heat resistance jet printing ink

## IT Dyes

Heat-resistant materials

(use of dyes modified by polyoxyalkylene groups in hot-melt ink jet inks)

## IT Inks

(jet-printing, hot-melt, phase-change; use of dyes modified by polyoxyalkylene groups in hot-melt ink jet inks)

## IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses) (reaction products, use of dyes modified by polyoxyalkylene groups in hot-melt ink jet inks)

IT 181493-69-6, Ink Black 8915-67 181493-70-9, Ink Blue 92 181493-71-0, Ink Red 357 181493-72-1, Ink Yellow 869

RL: TEM (Technical or engineered material use); USES (Uses) (use of dyes modified by polyoxyalkylene groups in hot-melt ink jet inks)

L66 ANSWER 28 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1995:689506 HCAPLUS

DN 123:159274

ED Entered STN: 20 Jul 1995

TI Stereognostic coordination chemistry. 4. Metal oxo cation receptors: multimode coordination to the dioxoosmium(VI) cation

AU Borovik, A. S.; Du Bois, Justin; Raymond, Kenneth N.

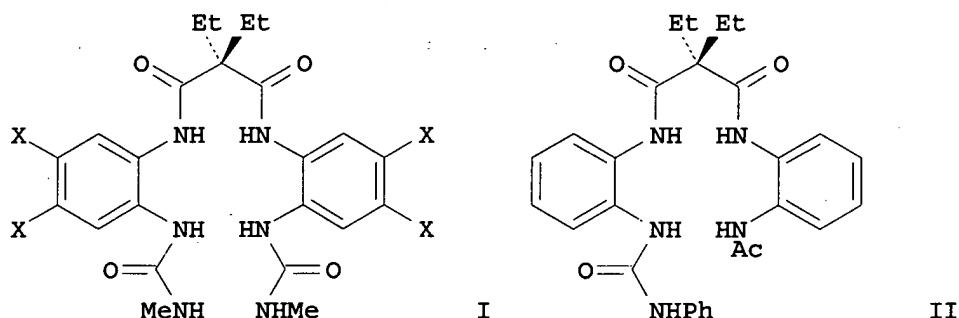
CS Dep. Chemistry, Univ. California, Berkeley, CA, 94720, USA

SO Angewandte Chemie, International Edition in English (1995), 34(12), 1359-62

CODEN: ACIEAY; ISSN: 0570-0833

PB VCH

DT Journal  
 LA English  
 CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 25, 72, 75  
 GI



AB I (X = Cl, H) and II and their osmium(VI) complexes  $[\text{Os}(\text{O})_2(\text{H}_2\text{L})]^{2-}$  ( $\text{H}_6\text{L} = \text{I}$ ) and  $[\text{Os}(\text{O})_2(\text{HL})]^{2-}$  ( $\text{H}_5\text{L} = \text{II}$ ) were prepared. Two of the complexes were characterized by x-ray crystallog. Electrochem. oxidation of all of the complexes was studied by cyclic voltammetry. One-electron waves occur at 0.461, 0.206, and 0.385 V (vs. SCE) for I (X = Cl, H) and II, resp. with a decrease in reversibility in the order given; thus to access and stabilize a high valent metal species, a ligand must be both a strong base and a poor reducing agent.

ST crystal structure osmium 6 oxo amide; electrochem oxidn osmium 6 oxo amide; osmium 6 oxo amide complex

IT Crystal structure  
 Molecular structure  
 Oxidation, electrochemical  
 (of osmium(VI) amidato oxo complexes)

IT Redox reaction  
 (electrochem., of osmium(VI) amidato oxo complex)

IT Electric potential  
 (oxidation, of osmium(VI) amidato oxo complexes)

IT Electric potential  
 (redox, of osmium(VI) amidato oxo complex)

IT 166531-76-6  
 RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (electrochem. formation and elec. potential of couple containing)

IT 166531-68-6P 166531-69-7P 166531-70-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and complexation with osmium(VI))

IT 166531-78-8P 166531-79-9P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and crystal structure of)

IT 166531-74-4P 166531-75-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and electrochem. oxidation)

IT 166531-72-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction with diethylmalonyl dichloride)

- IT 166531-71-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reactions with Me **isocyanate** and acetic anhydride/Ph **isocyanate**)
- IT 166531-73-3P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation, mol. structure and electrochem. oxidation)
- IT 5348-42-5, 1,2-Diamino-4,5-dichlorobenzene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with Me **isocyanate**)
- IT 95-54-5, 1,2-Diaminobenzene, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with diethylmalonyl dichloride)
- IT 103-71-9, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction with partially protected N,N'-bis(aminophenyl)malonamide)
- IT 54505-72-5, 2,2-Diethylmalonyl dichloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions with N-(aminodichlorophenyl)urea and diaminobenzene)
- IT 77347-87-6, Dipotassium tetrahydroxodioxosmate(2-)  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions with **tetraamidato** ligands with appendages containing H bond donors)

L66 ANSWER 29 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:540231 HCAPLUS

DN 121:140231

ED Entered STN: 17 Sep 1994

TI Synthesis and characterization of fluorinated polyetheric amides

AU Piacenti, Franco; Camaiti, Mara

CS CNR- C.S. Cause di Dipartimento e Metodi di Conservazione delle Opere d'Arte, via degli Alfani 74, Florence, 50121, Italy

SO Journal of Fluorine Chemistry (1994), 68(2), 227-35

CODEN: JFLCAR; ISSN: 0022-1139

DT Journal

LA English

CC 58-4 (Cement, Concrete, and Related Building Materials)

Section cross-reference(s): 42

- AB Di- and **tetra-amides** have been synthesized from the esters of perfluoropolyetheric mono- and di-carboxylic acids and ethylenediamine, hexamethylenediamine and piperazine and characterized by viscometric and osmometric detns., FT-IR, <sup>1</sup>H NMR, and <sup>19</sup>F NMR spectra. They were also submitted to stability tests in acidic and basic media, by UV irradiation and heating. The properties shown by the amides make them suitable as protective materials for stone exposed to atmospheric agents. Preliminary tests on the efficacy of these products on a bioclastic limestone (Pietra di Lecce) have provided very promising results.
- ST fluorinated polyetheric amide synthesis characterization; stone amide protective agent; ethylenediamide synthesis protective agent stone; hexamethylenediamide synthesis protective agent stone; piperazinediamide synthesis protective agent stone

IT Limestone, miscellaneous

RL: MSC (Miscellaneous)

(bioclastic, protective agents for, fluorinated polyetheric amides as, synthesis and characterization of)

IT Amides, preparation

RL: PREP (Preparation)

(diethyl- and isobutyl-, from perfluoropolyetheric acids, synthesis and



characterization and stability of, as protective agents for stone)

IT Stone  
 RL: USES (Uses)  
 (protective agents for, fluorinated polyetheric amides as, synthesis and characterization of)

IT Amides, preparation  
 RL: PREP (Preparation)  
 (di-, ethylene- and hexamethylene and piperazine-, from perfluoropolyetheric acids, synthesis and characterization and stability of, as protective agents for stone)

IT Amides, preparation  
 RL: PREP (Preparation)  
 (tetra-, ethylenediamine- and hexamethylenediamine, from perfluoropolyetheric acids, synthesis and characterization and stability of, as protective agents for stone)

L66 ANSWER 30 OF 36 WPIX COPYRIGHT 2005 THE THOMSON CORP on STN

AN 1990-038675 [06] WPIX

DNN N1990-029797 DNC C1990-016890

TI Phase change ink carrier for colour images for overhead projection - based on fatty amide containing materials, in solid phase at room temperature and liquid phase at elevated temperature for use in ink jet printer.

DC B12 G02 P75 T04

IN JAEGER, C W; LE, HUE P; SOPKO, J J; TITTERINGTON, D R; LE, H P; TITTERINGT, D R

PA (TEKT) TEKTRONIX INC

CYC 6

PI EP 353979 A 19900207 (199006)\* EN 7

R: DE GB IT NL

US 4889560 A 19891226 (199008) 6

JP 02069282 A 19900308 (199016)

JP 04074193 B 19921125 (199251) 6

EP 353979 B1 19950913 (199541) EN 8 B41M005-00

R: DE GB IT NL

DE 68924219 E 19951019 (199547) C09D011-00

ADT EP 353979 A EP 1989-307777 19890731; US 4889560 A US 1988-227846 19880803;

JP 02069282 A JP 1989-193788 19890726; JP 04074193 B JP 1989-193788

19890726; EP 353979 B1 EP 1989-307777 19890731; DE 68924219 E DE

1989-624219 19890731, EP 1989-307777 19890731

FDT JP 04074193 B Based on JP 02069282; DE 68924219 E Based on EP 353979

PRAI US 1988-227846 19880803

REP 1.Jnl.Ref; A3...9140; EP 315406; EP 355342; JP 55054368; No-SR.Pub;

2.Jnl.Ref

IC ICM B41M005-00

ICS C09D011-02

AB EP 353979 A UPAB: 19930928

A phase change ink carrier compsn. comprising a fatty amide-containing material, which is in a solid phase at room temperature and

in a liquid phase at elevated operating temps., for producing a phase change ink in conjunction with a suitable colourant, thin films of uniform thickness of the ink carrier compsn. and the ink produced from it having a high degree of lightness and chroma, and thin films of uniform thickness of the ink compsn. being rectilinearly light transmissive.

USE/ADVANTAGE - The inks have the desired characteristics to allow use in ink jet printing devices in which liquid phase ink jet drops at the operating temperature are ejected from the printing device and quickly solidify on contact with the printing medium. The solid

phase **inks** are easy to transport, are stable to long term storage, and eliminate problems of **ink** jet blockage due to evaporation, etc. The **inks** can easily be printed onto transparent receptor films without the necessity for special coatings, and since the **ink** films are rectilinearly light transmissive, they can be used for displaying colour images by overhead projection techniques.

0/0

FS CPI EPI GMPI  
FA AB; DCN  
MC CPI: E10-D03A; E10-D03C; G02-A04A  
EPI: T04-G02

L66 ANSWER 31 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1990:218963 HCAPLUS  
DN 112:218963  
ED Entered STN: 09 Jun 1990  
TI **Phase-change ink** composition manufacture  
IN Jaeger, Charles W.; Titterington, Donald R.; Le, Hu P.; Sopko, Jeffrey J.  
PA Tektronix, Inc., USA  
SO U.S., 6 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
IC ICM C09D011-06  
NCL 106027000  
CC 42-12 (Coatings, **Inks**, and Related Products)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4889560	A	19891226	US 1988-227846	19880803
	JP 02069282	A2	19900308	JP 1989-193788	19890726
	JP 04074193	B4	19921125		
	EP 353979	A2	19900207	EP 1989-307777	19890731
	EP 353979	A3	19911002		
	EP 353979	B1	19950913		

R: DE, GB, IT, NL

PRAI US 1988-227846 A 19880803

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
------------	-------	------------------------------------

US 4889560	ICM	C09D011-06
	NCL	106027000

AB The title **inks**, which are solid at ambient temperature but liquid at elevated temps., give uniform thin films with rectilinear light transmission, giving high chroma and brightness, contain compatible **colorants** and fatty mono- and **tetraamides**. A solid **ink** containing C17H35CONHC18H37, Unirez X37-523-235 ( **tetraamide** from 1:2:2 dimer acid-ethylenediamine-stearic acid), and Intratherm Yellow 346 was melted at 60° between glass plates and cooled to give a thin film with high chroma and brightness.

ST **ink phase change**; fatty amide **ink**;  
dimer acid amide **ink**; ethylenediamine fatty amide **ink**;  
stearamide deriv **ink**; octadecylstearamide **ink**  
**phase change**

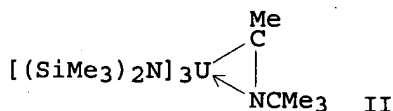
IT Amides, uses and miscellaneous  
RL: USES (Uses)  
(fatty, in **phase-change inks**)

IT **Inks**  
(printing, **phase-change**, containing fatty amides and dyes)

IT Fatty acids, polymers  
 RL: USES (Uses)  
 (unsatd., dimers, reaction products, with ethylenediamine and stearic acid, in **phase-change inks**)

IT 57-11-4D, Octadecanoic acid, amides with ethylenediamine and dimer acids  
 107-15-3D, 1,2-Ethanediamine, amides with dimer acids and stearic acid  
 13276-08-9, Kemamide S 180 127274-66-2, Unirez X 37-523-235  
 RL: USES (Uses)  
 (in **phase-change inks**)

L66 ANSWER 32 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1988:167621 HCAPLUS  
 DN 108:167621  
 ED Entered STN: 13 May 1988  
 TI Reactivity of uranium-carbon  $\sigma$  bonds: reactions of methyltris(hexamethyldisilylamido)uranium  
 AU Dormond, A.; Aaliti, A.; Elbouadili, A.; Moise, C.  
 CS Lab. Synth. Electrosynth. Organomet., Fac. Sci., Dijon, 21100, Fr.  
 SO Journal of Organometallic Chemistry (1987), 329(2), 187-99  
 CODEN: JORCAI; ISSN: 0022-328X  
 DT Journal  
 LA French  
 CC 29-10 (Organometallic and Organometalloidal Compounds)  
 OS CASREACT 108:167621  
 GI



AB The uranium-carbon  $\sigma$  bond of the methyltris(hexamethyldisilylamido)uranium,  $[(\text{SiMe}_3)_2\text{N}]_3\text{UMe}$  (I), was poorly reactive towards CO insertion, but reacted readily with **isocyanides**, aliphatic nitriles, and carbonyl compds. (aldehydes and ketones). E.g., treating I with  $\text{Me}_3\text{CNC}$  in pentane at  $0^\circ$  gave 76% insertion compound II. Acidic hydrogens reacted under mild conditions; secondary amines gave the **tetraamido** compds.  $[(\text{SiMe}_3)_2\text{N}]_3\text{UNR}_2$  and metallic hydrides gave the binuclear compds. with an isocarbonyl linkage.

ST uranium carbon bond reactivity; silylamidouranium methyl insertion reaction; isonitrile insertion methyluranium; carbonyl compd insertion methyluranium; phenol reaction methyluranium; alc reaction methyluranium; amine reaction methyluranium; metallic hydride reaction methyluranium

IT Insertion reaction  
 (of **isocyanides**, nitriles, and carbonyl compds. with methyluranium complex)

IT Alcohols, reactions  
 Aldehydes, reactions  
 Amines, reactions  
**Isocyanides**  
 Ketones, reactions  
 Nitriles, reactions  
 Phenols, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with methyluranium complex)

IT 66-25-1, Hexanal 67-64-1, Propanone, reactions 75-05-8, Acetonitrile, reactions 98-86-2, Acetophenone, reactions 100-52-7, Benzaldehyde,

reactions 103-79-7, 2-Phenylpropanone 107-87-9, 2-Pentanone  
 108-94-1, Cyclohexanone, reactions 109-74-0 110-43-0, 2-Heptanone  
 111-71-7, Heptanal 123-19-3, 4-Heptanone 123-38-6, Propanal, reactions  
 931-53-3, Cyclohexylisonitrile 1271-55-2, Acetylferrocene 2769-71-3  
 7188-38-7, tert-Butylisonitrile 12093-10-6, Ferrocene carboxaldehyde  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(insertion reaction of, with (silylamido)methyluranium complex)

IT 99646-25-0P 99646-26-1P 99648-24-5P 107145-73-3P 107145-74-4P  
 107145-75-5P 107145-76-6P 107145-77-7P 107164-07-8P 107164-08-9P  
 107222-01-5P 107241-38-3P 110978-44-4P 110978-45-5P 112460-18-1P  
 113678-07-2P 113678-08-3P 113678-09-4P 113678-18-5P 113692-96-9P  
 113765-69-8P 113765-70-1P 113765-71-2P 113765-72-3P 113765-73-4P  
 113765-74-5P 113765-75-6P 113765-76-7P 113765-77-8P 113784-10-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

IT 86-74-8, Carbazole 109-89-7, Diethylamine, reactions 109-97-7, Pyrrole  
 120-72-9, Indole, reactions 12128-26-6 12176-06-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with (silylamido)methyluranium complex)

IT 100-47-0, Benzonitrile, reactions 69517-44-8 72472-77-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactions of)

IT 75-65-0, tert-Butyl alcohol, reactions 576-26-1, 2,6-Dimethylphenol  
 12093-87-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactions of, with (silylamido)methyluranium complex)

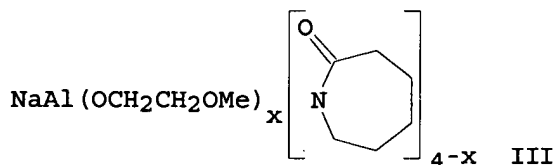
L66 ANSWER 33 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1985:505440 HCAPLUS  
 DN 103:105440  
 ED Entered STN: 04 Oct 1985  
 TI Activator for anionic polymerization of 6-caprolactam  
 IN Marik, Jiri; Casensky, Bohuslav; Kubanek, Vladimir  
 PA Czech.  
 SO Czech., 3 pp.  
 CODEN: CZXXA9  
 DT Patent  
 LA Czech  
 IC C08G069-20  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CS 218369	B	19830225	CS 1981-2042	19810320
PRAI CS 1981-2042		19810320		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
CS 218369	IC	C08G069-20

GI



AB The title activator, giving impact-resistant poly(6-caprolactam) (I) [25038-54-4], is prepared by dissolving 1-45% cellular **polyurethane** in 6-caprolactam (II) [105-60-2] melt in the presence of III (x = 0-2) or precursors of III, i.e., Na dihydrobis(2-methoxyethoxy)aluminate [22722-98-1] and/or Na **tetraamidoaluminate** [16456-83-0] and II. Thus, a mixture of II 150, 80% PhMe solution of Na bis(caprolactamato)aluminate 2, and cellular **polyurethane** 17 g was heated at 375 K and stirred for 10 min to give an activating **polyurethane** solution. Then II (500 g) was mixed at 418 K with 50 g of the above **polyurethane** solution and 0.3 mol% 82% PhMe solution of Na bis(caprolactamato)bis(2-methoxyethoxy)aluminate [64663-20-3] to give (after 15 min at 433 K) I with high impact strength.

ST sodium caprolactamatoaluminate polymn catalyst; anionic polymn catalyst caprolactam; **polyurethane** polymn catalyst

IT **Urethane** polymers, uses and miscellaneous  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, containing sodium caprolactamatoaluminates in caprolactam melt, for anionic polymerization of caprolactam)

IT Polymerization catalysts  
 (anionic, sodium caprolactamatoaluminates and **polyurethanes** in caprolactam melt, for caprolactam)

IT 64663-20-3 82684-82-0  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, containing **polyurethane** in caprolactam melt, for anionic polymerization of caprolactam)

IT 25038-54-4P, uses and miscellaneous  
 RL: PREP (Preparation)  
 (impact-resistant, preparation of, by anionic polymerization in presence of **polyurethane**-sodium caprolactamatoaluminate melt)

IT 16456-83-0 22722-98-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with caprolactam, in **polyurethane** melt, in preparation of catalysts for anionic polymerization of caprolactam)

IT 105-60-2, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with sodium dihydridobis(methoxyethoxy)aluminate or **tetraamidoaluminate** in molten **polyurethane**, for catalysts for anionic polymerization of caprolactam)

L66 ANSWER 34 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:566989 HCAPLUS

DN 77:166989

ED Entered STN: 12 May 1984

TI High-temperature-stable grease compositions

IN Loeffler, Donald E.

PA Shell Oil Co.

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

IC C10M

NCL 252051500A

CC 51-7 (Petroleum, Petroleum Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 3689413	A	19720905	US 1969-823484	19690509
PRAI	US 1969-823484	A	19690509		
CLASS					

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 3689413 IC C10M  
NCL 252051500A

AB Lubricating fluids thickened with 5-50 weight % **tetraamides**, **tetraurethanes**, or **amidourethanes** form greases with good thermal stability and high-temperature properties. Thus, a mixture of 23 g stearic acid and 30 g high-viscosity-index mineral oil having a viscosity of 500 Saybolt Universal sec at 100°F was added to a 2nd mixture of 3,3'-dimethyldiphenylmethane 4,4'-**diisocyanate** 22.2, EtNH<sub>2</sub> 2, and oil 60 g and heated to 350°F, 1 g ClOH<sub>7</sub>NH<sub>2</sub> added, and heating continued to 400°F. After cooling, the paste was milled, baked 3 hr at 400°F, and remilled. A grease was formed containing 27% gellant, with a worked penetration of 309, changing to 223 at 300°F and having a dropping point of 468°F.

ST lubricating grease heat resistance; amide lubricant thickener; **urethane** lubricant thickener; **amidourethane** lubricant thickener; thickener lubricating grease; stearic acid lubricant prepn

IT Lubricating grease additives

(thickeners, nitrogen compds., for high temperature use)

IT 38888-73-2 38888-74-3 38975-22-3 38975-23-4 38975-24-5  
38975-25-6 38975-26-7 38975-27-8 39004-32-5 39004-33-6  
39004-34-7 39049-25-7

RL: USES (Uses)

(lubricating grease thickeners, for high temperature use)

L66 ANSWER 35 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1968:110303 HCAPLUS

DN 68:110303

ED Entered STN: 12 May 1984

TI Photochemical preparation of substituted polyhedral borane anions

IN Trofimenko, Swiatoslaw

PA du Pont de Nemours, E. I., and Co.

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

NCL 204157100

CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3373098	A	19680312	US 1964-337514	19640110
PRAI US 1964-337514	A	19640110		

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 3373098 NCL 204157100

AB Substituted polyhedral borane anions are prepared by irradiating a solution containing a halogen-substituted divalent polyhedral borane anion and another anion. Thus, 2 solns., each containing 100 g. Cs<sub>2</sub>B<sub>12</sub>H<sub>2</sub>Br<sub>10</sub> and 113 g. KCN in 1 l. H<sub>2</sub>O, are irradiated for 60 and 120 hrs., resp., and the irradiated solns. are acidified with HCl and evaporated to dryness. The residues are dissolved in MeCN, filtered, and the filtrates evaporated to dryness. The residues are dissolved in H<sub>2</sub>O and treated with aqueous Me<sub>4</sub>NCl to give 13 and 10 g., resp., of mixts. of the bis(tetramethylammonium) salts of decaborates with 8 and 9 CN groups. A solution of 80 g. Cs<sub>2</sub>B<sub>12</sub>Cl<sub>10</sub> and 160 g. KCN in 900 ml. H<sub>2</sub>O was irradiated 90 hrs., acidified with HCl, and extracted with MeOH. The exts. were evaporated to dryness, passed through an acid

ion exchange resin, and treated with aqueous CsF to give 20 g.  $\text{Cs}_2\text{B}_{10}\text{Cl}_{18}(\text{CN})_2$ . Similar irradiation of 21.9 g.  $\text{Cs}_2\text{B}_{10}\text{Cl}_{10}$  and 32.9 g. KCN in 270 ml.  $\text{H}_2\text{O}$  for 30 hrs. followed by treatment with aqueous  $\text{Me}_4\text{NCl}$  gave a mixture containing 60%  $(\text{Me}_4\text{N})_2\text{B}_{10}\text{Cl}_7(\text{CN})_3$  and 40%  $(\text{Me}_4\text{N})_2\text{B}_{10}\text{Cl}_8(\text{CN})_2$ . Similar results were obtained by using other organoborane compds. such as  $(\text{NH}_4)_2\text{B}_{12}\text{Br}_{12}$  or  $\text{H}_2\text{B}_{12}\text{Cl}_{12}$  and other anions such as NaS, CsF,  $\text{NaN}_3$ , KOCN, KSCN,  $\text{Na}_2\text{S} \cdot 9\text{H}_2\text{O}$ , and  $\text{K}[(\text{NC})_2\text{C}:\text{C}(\text{NH}_2)\text{O}]$ . Thus, irradiation of  $\text{Cs}_2\text{B}_{12}\text{Br}_{12}$  and  $\text{NaN}_3$  for 3.5 hrs. followed by treatment with aqueous  $\text{Me}_4\text{NCl}$  gave  $(\text{Me}_4\text{N})_2\text{B}_{12}\text{Br}_{11}\text{N}_3$ . The polyhedral borane compds. are useful in the preparation of polymeric

#### B-containing

compds. and as components of high energy fuels.

ST BORANES POLYHEDRAL PHOTOCHEM PREPN; PHOTOCHEM POLYHEDRAL BORANES PREPN; POLYHEDRAL BORANES PREPN PHOTOCHEM

IT Ammonium, tetramethyl-, decabromomercapto(thiocyanato)dodecaborate (2-) (2:1)

Ammonium, tetramethyl-, diazidodecabromododecaborate (2-) (2:1)

Ammonium, tetramethyl-, dibromodecacyanododecaborate (2-) (2:1)

Ammonium, tetramethyl-, dibromooctacyanodihydrododecaborate (2-) (2:1)

Ammonium, tetramethyl-, dodecabromodecahydro- $\mu$ -thioxotetracosaborate (4-) (4:1)

Ammonium, tetramethyl-, heptachlorotricyanodecaborate (2-) (2:1)

Ammonium, tetramethyl-, nonabromohydroxybis(isocyanato)dodecaborate (2-) (2:1)

Ammonium, tetramethyl-, octachlorodicyanodecaborate (2-) (2:1)

Ammonium, tetramethyl-, tetrabromohexacyanodihydrododecaborate (2-) (2:1)

Ammonium, tetramethyl-, tribromononacyanododecaborate (2-) (2:1)

Ammonium, tetramethyl-, tribromopentacyanotetrahydrododecaborate (2-) (2:1)

Ammonium, tetramethyl-, undecabromo[(1-amino-2,2-dicyanovinyl)oxy]dodecaborate (2-) (2:1)

Ammonium, tetramethyl-, undecabromoisocyanatododecaborate (2-) (2:1)

Ammonium, tetrapropyl-, tetraamidotribromopentacyanododecaborate (2-) (2:1)

Borate (2-), decabromodihydroxydodeca-, bis(tetramethylammonium)

Borate (2-), decabromodihydroxydodeca-, dicesium

Borate (2-), decabromodihydroxydodeca-, dihydrogen

Borate (2-), decabromomercapto(thiocyanato)dodeca-, bis(tetramethylammonium)

Borate (2-), diazidodecabromododeca-, bis(tetramethylammonium)

Borate (2-), dibromodecacyanododeca-, bis(tetramethylammonium)

Borate (2-), dibromooctacyanodihydrododeca-, bis(tetramethylammonium)

Borate (2-), heptabromopentafluorododeca-, dihydrogen

Borate (2-), heptachlorotricyanodeca-, bis(tetramethylammonium)

Borate (2-), nonabromohydrodimercaptododeca-, dicesium

Borate (2-), nonabromohydroxybis(isocyanato)dodeca-, bis(tetramethylammonium)

Borate (2-), nonachlorocyanodeca-, dicesium

Borate (2-), octachlorodicyanodeca-, bis(tetramethylammonium)

Borate (2-), pentachloroheptacyanododeca-, dicesium

Borate (2-), tetraamidotribromopentacyanododeca-, bis(tetrapropylammonium)

Borate (2-), tetrabromohexacyanodihydrododeca-, bis(tetramethylammonium)

Borate (2-), tribromononacyanododeca-, bis(tetramethylammonium)

Borate (2-), tribromononacyanododeca-, dicesium

Borate (2-), tribromopentacyanotetrahydrododeca-, bis(tetramethylammonium)

Borate (2-), undecabromo(isocyanato)dodeca-, bis(tetramethylammonium)

Borate (2-), undecabromo(phenoxy)dodeca-, dicesium

Borate (2-), undecabromo[(1-amino-2,2-dicyanovinyl)oxy]dodeca-, bis(tetramethylammonium)

- Borate(4-), dodecabromodecahydro- $\mu$ -thioxotetracos-,  
tetrakis(tetramethylammonium)  
RL: PROC (Process)  
(photochem. manufacture of)
- IT Ammonium, tetramethyl-, azidoundecabromododecaborate(2-) (2:1)  
Borate(2-), azidoundecabromododeca-, bis(tetramethylammonium)  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 7440-42-8D, Boron, organic 12546-09-7, Ammonium, tetramethyl-,  
decabromodihydroxydodecaborate(2-) (2:1)  
RL: PROC (Process)  
(photochem. manufacture of)
- L66 ANSWER 36 OF 36 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 1955:42631 HCAPLUS  
DN 49:42631  
OREF 49:8125e-i  
ED Entered STN: 22 Apr 2001  
TI Synthesis of polycarboxylic acids. I. Preparation of ethane-1, 1, 2,  
2-tetraacetic acid  
AU Runge, Franz; Goldann, Karl  
CS Martin-Luther Univ., Halle-Wittenburg, Germany  
SO Chemische Berichte (1953), 86, 377-80  
CODEN: CHBEAM; ISSN: 0009-2940  
DT Journal  
LA Unavailable  
CC 10 (Organic Chemistry)  
OS CASREACT 49:42631  
AB cf. Grundmann and Paul, C.A. 48, 1273c. Oxidation of 2,6- or  
2,7-dihydroxynaphthalene affords ethane-1,1,2,2-tetraacetic acid,  
identical with the material prepared in small yield by Grundmann and Paul  
(loc. cit.) by a Wurtz reaction on  $\beta$ -bromoglutaric ester. Purified  
2,7-(OH)2C10H6 (I) (1 part) in 3 parts iso-PrOH at 125-50° with H  
(100 atmospheric, Raney Ni, 4.5 hrs., stirring in autoclave) gives a product  
which on removal (filtration) of catalyst and purification yields  
2,7-dihydroxy-1, 2, 3, 4-tetrahydronaphthalene (20%), m. 148°.  
Hydrogenation (220 atmospheric, 195°, 8 hrs., with 28 g. Ni on Al2O3 in an  
autoclave) of 141 g. I gives 126 g. 2, 7-dihydroxydecahydronaphthalene  
(II), b0.4 147-52°, and similarly from the 2,6-analog 83.5% 2,  
6-dihydroxydecahydronaphthalene (III), b0.2 138-45°; dipalmitate,  
m. 46-7°; and 2, 6-dihydroxy-1, 2, 3, 4-tetrahydronaphthalene, b0.4  
174-6°, m. 136-8°. Portionwise addition of 18 g. III to 200 g.  
HNO3 (d. 1.340) and 1 g. NH4 metavanadate (stirred well and cooled to  
60-65° and later 65-70°) gives a product which on cooling  
(ice-NaCl) ppts. 6.7 g. product and yields from the mother liquor 7.3 g.  
(49% total) ethane-1,1,2,2-tetraacetic acid (IV), m. 215°  
(decomposition), yielding with Ac2O the dianhydride, m. 199-202°. The  
acid similarly prepared from II was identical (mixed m.p.) with IV and with  
material prepared by the method of Grundmann and Paul (loc. cit.); tetra-Me  
ester, b2.5 180-3°, m. 37.5-38.5°, nD20 1.4607; tetra-Et  
ester, b2 182-3°, m. 27-8°; tetra(p-cresyl) ester, m.  
145°; tetrahydrazide, m. 230.5° (decomposition); tetraazide, m.  
53° (decomposition); **tetraethylurethan**, m. 100-1°;  
**tetraamide**, m. 277° (decomposition) and 1,1,2,2-  
tetrakis(aminomethyl)ethane tetrahydrochloride, decompose slowly at  
280° and rapidly at 320°.
- IT Acids  
(polycarboxylic)
- IT 1,1,2,2-Ethanetetramine, N,N',N'',N'''-tetramethyl-, tetrahydrochloride  
2,6-Naphthalenediol, decahydro-, dipalmitate



2,7-Naphthalenediol, decahydro-, dipalmitate  
Carbamic acid, [2,3-bis(carboxyaminoethyl)tetramethylene]di-, tetraethyl  
ester  
Hexanediamide, 3,4-bis(carbamoylmethyl)-  
Hexanedioyl azide, 3,4-bis[(azidoformyl)methyl]-  
Palmitic acid, ester (di-) with decahydro-2,6(and)2,7-naphthalenediol  
IT 90927-67-6, Hexanedioic acid, 3,4-bis(carboxymethyl)-  
(and derivs.)  
IT 4756-09-6, 1,1,3-Propanetricarboxylic acid 20917-99-1,  
2,7-Naphthalenediol, decahydro- 27229-50-1, Glutaric acid,  
2-methyl-3-phenyl- 102942-69-8, 2,6-Naphthalenediol, decahydro-  
103323-34-8, 2,6-Naphthalenediol, 1,2,3,4-tetrahydro- 109811-13-4,  
1,1,3-Butanetricarboxylic acid, 2-phenyl-, triethyl ester 303185-87-7,  
2,7-Naphthalenediol, 1,2,3,4-tetrahydro-  
(preparation of)

=> => file epful

FILE 'EPFULL' ENTERED AT 17:08:18 ON 15 APR 2005  
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FILE LAST UPDATED: 13 APR 2005 <20050413/UP>  
FILE COVERS 1978 TO DATE

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IN FIELDS /BI and /CLM. <<<

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Additional search fields have been implemented.

see => HELP CURRENT (last updated March 23, 2005)

>>> For changes in EPFULL compared to EUROPATFULL please see  
=> HELP CHANGE (last updated January 11, 2005). <<<

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L42 69 SEA FILE=HCAPLUS ABB=ON TETRA(W)AMID?  
L43 402 SEA FILE=HCAPLUS ABB=ON TETRAAMID?  
L44 439 SEA FILE=HCAPLUS ABB=ON ?TETRAAMID?  
L45 70 SEA FILE=HCAPLUS ABB=ON ?TETRA(W)AMID?  
L61 132 SEA FILE=EPFULL ABB=ON (L42 OR L43 OR L44 OR L45)  
L63 37 SEA FILE=EPFULL ABB=ON L61(5A)INK?  
L69 11 SEA FILE=EPFULL ABB=ON (CA2166012/PN OR EP353979/PN OR  
EP723999/PN OR BR2003002125/PN OR BR2003004236/PN OR BR20040017  
22/PN OR CA2433168/PN OR CA2471533/PN OR CA2472113/PN OR  
CN1539894/PN OR CN1539895/PN OR CN1550528/PN OR DE68924219/PN  
OR DE69630062/PN OR EP1061104/PN OR EP1099734/PN OR EP1335006/P  
N OR EP1375610/PN OR EP1403336/PN OR EP1471115/PN OR EP1471117/  
PN OR EP1491595/PN OR EP1491596/PN OR JP02069282/PN OR  
"JP04074193 B"/PN OR JP08239612/PN OR JP2001011352/PN OR  
JP2001214098/PN OR JP2003277665/PN OR JP2004027231/PN OR  
JP2004115801/PN OR JP2004323845/PN OR JP2004323846/PN OR  
JP2004339512/PN OR JP2005015807/PN OR JP2005015809/PN OR  
US2003164116/PN OR US2003172841/PN OR US2004007155/PN OR  
US2004102540/PN OR US2004167249/PN OR US2004226476/PN OR  
US2004261657/PN OR US2005016417/PN OR US4889560/PN OR US5597856  
/PN OR US5621022/PN OR US5902841/PN OR US6133353/PN OR  
US6221137/PN OR US6350305/PN OR US6395811/PN OR US6620228/PN  
OR US6663703/PN OR US6673139/PN OR US6726755/PN OR US6755902/PN  
OR US6764541/PN OR US6790267/PN OR US6811596/PN OR US6821327/P

N OR US6835238/PN OR US6860931/PN)  
 L70 28 SEA FILE=EPFULL ABB=ON L63 NOT L69  
 L73 60 SEA FILE=EPFULL ABB=ON L61(6A) (PROCESS OR MANUF? OR SYNTHES?  
 OR\_PRODUC? OR PREPAR?)  
 L74 21 SEA FILE=EPFULL ABB=ON L70 AND L73

=> d 174 bib abs 1-21

L74 ANSWER 1 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN  
 AN 2004:16635 EPFULL  
 DUPD 20041027 DUPW 200444  
 TIEN Triphenylmethane dyes with a polyoxyalkylene moiety and inks containing them.  
 TIFR Colorants de type triphenylmethane substitués par un groupe polyoxyalkylene et encre les contenant.  
 TIDE Triphenylmethanfarbstoffe mit einem Polyoxyalkenrest sowie diese enthaltende Tinte.  
 IN Banning, Jeffery H., 484 NE 16th Avenue, Hillsboro, OR 97124, US; Titterington, Donald R., 35905 NE Kramien Road, Newberg, OR 97132, US; King, Clifford R., 223 Sugar Hollow Road, Hendersonville, NC 28739, US  
 PA Xerox Corporation, Patent Department, Xerox Square - 20 A, 100 Clinton Avenue South, Rochester, New York 14644, US  
 PAN 219004  
 AG Gruenecker, Kinkeldey, Stockmair & Schwannhaeusser Anwaltssozietät, Maximilianstrasse 58, 80538 Muenchen, DE  
 AGN 100721  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPA1 Application published with search report  
 PI EP 1471116 A1 20041027  
 DS AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR  
 AI EP 2004-9444 A 20040421  
 PRAI US 2003-422895 A 20030424

*all these fulltext patents have Tetra-amide within 6 words of ink + Tetra-amide within 6 words of process, etc, since*

*fulltext I only printed the Bib & the abstracts*

ABEN

Disclosed are colorant compounds of the formula

(image, 8000.1, chemical formulae)

wherein R, R1, R2, R3, and R4 each, independently of the others, is an alkyl group, an aryl group, an arylalkyl group, or an alkylaryl group, and wherein R, R1, R2, R3, and R4 each can be joined to a phenyl moiety to form a ring, each R'a, R'b, and R'c, independently of the others, is a halogen atom, an alkyl group, an alkoxy group, a nitrile group, a nitro group, an amide group, or a sulfonamide group, z1, z2, and z3 each, independently of the others, is an integer of 0, 1, 2, 3, or 4, n is an integer representing the number of carbon atoms in each repeat alkylene oxide unit, x is an integer representing the number of repeat alkylene oxide units, D is an anion, and g is the charge on the anion, wherein said colorant has no more than one -OH, -SH, or primary or secondary amino group per molecule.

L74 ANSWER 2 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 2000:5119 EPFULL UP 20050113

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

DUPD 20050112 DUPW 200502

TIEN Phase change compositions and methods for selective deposition modeling.

TIFR Compositions a changement de phase et procede de modelage par depot selectif.

TIDE Phaseaustauschzusammensetzungen und selektives Materialabsatzverfahren.

IN Bui, Loc V., 25879 Milano Lane, Valencia, California 91355, US;  
Doan, Vu, 7503 Mason Avenue, Winnetka, California 91306, US;  
Kwo, Kelly, 28382 Lobelia Lane, Valencia, California 91354, US

PA 3D SYSTEMS, INC., 26081 Avenue Hall, Valencia, California 91355, US

PAN 1093960

AG Bluff, John William, et al, Lloyd Wise Commonwealth House, 1-19 New Oxford Street, London WC1A 1LW, GB

AGN 28421

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT EPB1 Granted patent

PI EP 1033222 B1 20021211

DS AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

AI EP 2000-301387 A 20000222

PRAI US 1999-258048 A 19990225

REP EP 654353 A  
EP 676454 A  
EP 723999 A  
EP 812889 A  
EP 844287 A  
EP 856565 A  
EP 867487 A  
WO 2000011092 A  
WO 9826013 A  
US 4889560 A  
US 5855836 A

L74 ANSWER 3 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1999:112123 EPFULL

DUPD 20041201 DUPW 200449

TIEN Imaging element for different imaging systems.

TIFR Element pour l'enregistrement multisysteme.

TIDE Mehrsystem-Aufzeichnungselement.

IN Leenders, Luc c/o Agfa-Gevaert N.V., RDM-IP/Mo 3811, Septestraat 27, 2640 Mortsel, BE;  
Vermeersch, Joan c/o Agfa-Gevaert N.V., RDM-IP/Mo 3811, Septestraat 27, 2640 Mortsel, BE

PA AGFA-GEVAERT, Septestraat 27, 2640 Mortsel, BE

PAN 200395

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT EPB1 Granted patent

PI EP 1063086 B1 20031210

DS DE FR GB

AI EP 1999-201990 A 19990621

PRAI EP 1999-201990 A 19990621 \*

REP US 3558881 A

L74 ANSWER 4 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1999:77414 EPFULL  
 DUPD 20031119 DUPW 200347  
 TIEN Ink-receptor for printing with phase change ink.  
 TIFR Recepteur d'encre pour l'impression avec encre a changement de phase.  
 TIDE Farbstoffempfaenger fuer Druck mit Phasenaustauschtinte.  
 IN Valentini, Jose Esteban, 4 Margate Lane, Hendersonville, NC 28739, US;  
 Siquiera, Jose A., 2 Tarragon Place, Flat Rock, NC 28731, US;  
 Chandler, John Thomas, P.O. Box 1702, Brevard, NC 28712, US;  
 Guy, Joseph T., 20 West Bridge Drive, Hendersonville, NC 28739, US  
 PA AGFA-GEVAERT, Septestraat 27, 2640 Mortsel, BE  
 PAN 200395  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 1002658 B1 20020605  
 DS DE FR GB  
 AI EP 1999-203601 A 19991101  
 PRAI US 1998-197350 A 19981120  
 REP EP 435675 A  
 EP 818321 A

L74 ANSWER 5 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1999:23631 EPFULL  
 DUPD 20031126 DUPW 200348  
 TIEN Transparent media containing silica for phase change ink printing.  
 TIFR Matériaux transparents pour l'impression par des encres a changement de phase contenant de la silice.  
 TIDE Transparente Materialien fuer Phasenaustauschtintendruck, die Kieselerde enthalten.  
 IN Valentini, Jose Esteban, 4 Margate Lane, Hendersonville, NC 28739, US;  
 Jones, Richard Roy, 130 Sweetwater Hills Drive, Hendersonville, NC 28791, US;  
 Thomas, Jule William, Jr., 17 Finley Ridge Road, Hendersonville, NC 28739, US;  
 Apple, Bernard Allan, 22 Legendary Drive, Hendersonville, NC 28739, US;  
 Chandler, John Thomas, P.O.Box 1702, Brevard, NC 28712, US;  
 Siqueira, Jose A., 300 Long Shoals Rd., Apt. 10D, Arden, NC 28704, US  
 PA AGFA-GEVAERT, Septestraat 27, 2640 Mortsel, BE  
 PAN 200395  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 958932 B1 20020724  
 DS BE DE FR GB IT  
 AI EP 1999-109141 A 19990508  
 PRAI US 1998-83324 A 19980522  
 REN PATENT ABSTRACTS OF JAPAN vol. 95, no. 6, 31 July 1995 & JP 07 081213 A (DAI NIPPON PRINTING COMPANY LIMITED), 28 March 1995;  
 PATENT ABSTRACTS OF JAPAN vol. 17, no. 361 (C-1080), 8 July 1993 & JP 05 051470 A (TORAY INDUSTRIES INCORPORATED), 2 March 1993

REP EP 634287 A  
US 3889270 A  
US 4592951 A

L74 ANSWER 6 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1999:3008 EPFULL  
DUPD 20041103 DUPW 200445  
TIEN Magenta phase change ink formulation containing organic sulfonic acid.  
TIFR Formulation d'encre a changement de phase magenta contenant de l'acide  
sulphonique organique.  
TIDE Magentaphasenaustauschtintenzusammensetzung die organische Sulfonsaeure  
enthaeft.  
IN Meinhardt, Michael B., 5541 Springwood Avenue, SE, Salem, Oregon 97306,  
US;  
Titterington, Donald R., 10185 SW Siletz Drive, Tualatin, Oregon  
97062, US;  
King, Clifford R., 3011 Mahalo Court, Salem, Oregon 97301, US;  
Banning, Jeffery H., 484 NE 16th Avenue, Hillsboro, Oregon 97124, US  
PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT  
06904-1600, US  
PAN 219782  
AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat,  
Maximilianstrasse 58, 80538 Muenchen, DE  
AGN 100721  
LAF English  
LA English  
LAP English  
TL German; English; French  
DT Patent  
PIT EPB1 Granted patent  
PI EP 936258 B1 20031112  
DS CH DE FR GB IE LI NL  
AI EP 1999-300963 A 19990210  
PRAI US 1998-23816 A 19980213  
REP EP 404493 A  
EP 816410 A  
EP 816449 A  
EP 894835 A  
US 5507864 A

L74 ANSWER 7 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1999:2381 EPFULL  
DUPD 20010328 DUPW 200113  
TIEN Receptor sheet for ink-jet recording using phase change inks.  
TIFR Feuille receptrice pour l'enregistrement par jet d'encre utilisant des  
encres a changement de phase.  
TIDE Empfangsschicht fuer Tintenstrahlaufzeichnung, die Phasenaustauschtinte  
verwendet.  
IN Jones, Richard Roy, c/o Sterling Diagnostic Im.Inc., Staton Road, P. O.  
Box 267, Brevard, NC 28712-0267, US;  
Valentini, Jose E., c/o Sterling Diagnostic Inc., Staton Road, P. O. Box  
267, Brevard, NC 28712-0267, US  
PA AGFA-GEVAERT N.V., Septestraat 27, 2640 Mortsel, BE  
PAN 200390  
LAF English  
LA English  
LAP English  
TL German; English; French

DT Patent  
PIT EPA3 Separate publication of search report  
PI EP 934833 A3 20010328  
DS AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
AI EP 1999-102081 A 19990202  
PRAI US 1998-19106 A 19980205

L74 ANSWER 8 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:92395 EPFULL  
DUPD 20030305 DUPW 200310

TIEN A method for making positive working printing plates from a lithographic base comprising a flexible support having a hardened hydrophilic substrate.

TIFR Procédé pour la fabrication d'un plaque d'impression positive a partir d'un support flexible recouvert d'une couche hydrophile durcie.

TIDE Verfahren zur Herstellung einer positiv arbeitenden Druckplatte, von einem lithographischen Traeger mit einem vernetzten hydrophilen Substrat ausgehend.

IN Leenders, Luc, c/o Agfa-Gevaert N.V., IIE 3800, Septestraat 27, 2640 Mortsel, BE;  
Oelbrandt, Leo, c/o Agfa-Gevaert N.V., IIE 3800, Septestraat 27, 2640 Mortsel, BE

PA AGFA-GEVAERT, Septestraat 27, 2640 Mortsel, BE  
PAN 200395  
LAF English  
LA English  
LAP English  
TL German; English; French  
DT Patent  
PIT EPB1 Granted patent  
PI EP 919370 B1 20020313  
DS BE DE FR GB  
AI EP 1997-203690 A 19971125  
PRAI EP 1997-203690 A 19971125 \*  
REN "INK JET RECORDING FOR USE IN MAKING LITHOGRAPHIC PRINTING PLATES" RESEARCH DISCLOSURE, no. 289, May 1988, page 351/352 XPG00006453;  
PATENT ABSTRACTS OF JAPAN vol. 007, no. 192 (P-218), 23 August 1983 & JP 58 091452 A (DAINIPPON INSATSU KK), 31 May 1983,  
REP EP 298580 A

L74 ANSWER 9 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:47476 EPFULL  
DUPD 19991103 DUPW 199944

TIEN Printing method for producing gradient images.

TIFR Procédé d'impression pour la fabrication d'images a gradations multiples.

TIDE Druckverfahren zur Herstellung von Bildern mit mehreren Granstufen.

IN Apple, Bernard A., 22 Legendary Road, Hendersonville, N.C. 28739, US;  
Thomas, Jule W., 17 Finley Ridge Road, Hendersonville, N.C. 28739, US

PA Sterling Diagnostic Imaging, Inc., Staton Road, P.O. Box 267, Brevard, NC 28712-0267, US

PAN 2223131  
AG Selting, Guenther, Dipl.-Ing., et al, Patentanwalt von Kreisler, Selting, Werner Postfach 10 22 41, 50462 Koeln, DE  
AGN 11092  
LAF English  
LA English  
LAP English

TL German; English; French  
 DT Patent  
 PIT EPA3 Separate publication of search report  
 PI EP 841170 A3 19991103  
 DS AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE  
 AI EP 1997-117289 A 19971007  
 PRAI US 1996-742165 A 19961101

L74 ANSWER 10 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:32310 EPFULL  
 DUPD 20020109 DUPW 200202

TIEN Transparent media for phase change ink printing.  
 TIFR Materiaux transparents pour l'impression par des encres a changement de phase contenant de la silice.  
 TIDE Transparente Materialien fuer Phasenaustauschtintendruck, die Kieselerde enthalten.

IN Valentini, Jose Esteban, 4, Margate Lane, Hendersonville, NC 28739, US;  
 Jones, Richard Roy, 130 Sweewater Hills Drive, Hendersonville, NC 28791, US;  
 Thomas, Jule William, Jr., 17 Finley Ridge Road, Hendersonville, NC 28739, US;  
 Apple, Bernhard Allen, Box 2799, Hendersonville, NC 28793, US

PA AGFA-GEVAERT N.V., Septestraat 27, 2640 Mortsel, BE  
 PAN 200390  
 LAF English  
 LA English  
 LAP English

TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 827840 B1 20001227  
 DS BE DE FR GB IT  
 AI EP 1997-115165 A 19970902  
 PRAI US 1996-711422 A 19960905

REN PATENT ABSTRACTS OF JAPAN vol. 95, no. 6, 31 July 1995 & JP 07 081213 A (DAI NIPPON PRINTING COMPANY LIMITED ), 28 March 1995;;  
 PATENT ABSTRACTS OF JAPAN vol. 17, no. 361 (C-1080), 8 July 1993 & JP 05 051470 A (TORAY INDUSTRIES INCORPORATED), 2 March 1993,

REP EP 634287 A  
 US 3889270 A  
 US 4592951 A

L74 ANSWER 11 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:26415 EPFULL  
 DUPD 20020109 DUPW 200202

TIEN Ink-receptor for printing with phase change ink.  
 TIFR Recepteur d'encre pour l'impression avec encre a changement de phase.  
 TIDE Farbstoffempfaenger fuer Druck mit Phasenaustauschtinte.

IN Jones, Richard Roy, 130 Sweetwater Hills Drive, Hendersonville, NC 28791, US;  
 Maybin, Troy Lee, Rt. 1, Box 322, Zirconia, NC 28790, US;  
 Thomas, Jule William, Jr., 17 Finley Ridge Road, Hendersonville, NC, 28739, US;  
 Valentini, Jose Esteban, 4 Margate Lane, Hendersonville, NC, 28739, US

PA AGFA-GEVAERT N.V., Septestraat 27, 2640 Mortsel, BE  
 PAN 200390  
 LAF English  
 LA English

LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 818321 B1 20001227  
 DS BE DE FR GB IT  
 AI EP 1997-110894 A 19970702  
 PRAI US 1996-679543 A 19960712  
 REN PATENT ABSTRACTS OF JAPAN vol. 11, no. 393 (M-654) [2840] , 23  
 December 1987 & JP 62 160287 A (FUJITSU LIMITED), 16 July 1987,  
 REP EP 435675 A  
 EP 487349 A  
 EP 582466 A  
 FR 2532074 A  
 FR 2570988 A  
 GB 2147003 A

L74 ANSWER 12 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:23309 EPFULL  
 DUPD 20041201 DUPW 200449  
 TIEN Phase change ink formulation using urea and urethane isocyanate derived  
 resins.  
 TIFR Formulation d'encre a changement de phase en utilisant des resines  
 d'uree et d'urethane derivees d'isocyanate.  
 TIDE Phasenaustauschtintenzusammensetzung basierend auf von Isocyanat  
 abgeleiteten Harnstoff- und Urethanharzen.  
 IN Bui, Loc V, 23843 Arroyo Park Drive, Valencia, CA 91355, US;  
 King, Clifford R, 3011 Mahalo Court, Salem, Oregon 97301, US;  
 Banning, Jeffery H, 484 NE 16th Avenue, Hillsboro, Oregon 97124, US;  
 Titterington, Donald R, 10185 SW Siletz Drive, Tualatin, Oregon 97062,  
 US  
 PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT  
 06904-1600, US  
 PAN 219782  
 AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat,  
 Maximilianstrasse 58, 80538 Muenchen, DE  
 AGN 100721  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 816449 B1 20031210  
 DS CH DE FR GB IE LI NL  
 AI EP 1997-304735 A 19970630  
 PRAI US 1996-671998 A 19960628  
 US 1996-672609 A 19960628  
 US 1996-672617 A 19960628  
 US 1996-672815 A 19960628  
 US 1996-672816 A 19960628  
 US 1996-678386 A 19960628  
 REP WO 9414902 A  
 FR 1219438 A  
 GB 2294939 A  
 US 5507864 A

L74 ANSWER 13 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN



AN 1997:23308 EPFULL  
 DUPD 20040825 DUPW 200435  
 TIEN Phase change ink formulation using a urethane isocyanate-derived resin.  
 TIFR Formulation d'encre a changement de phase en utilisant une resine  
 d'urethane derivee d'isocyanate.  
 TIDE Phasenaustauschtintenzusammensetzung basierend auf von Isocyanat  
 abgeleiteter Urethanharz.  
 IN Bui, Loc V, 23843 Arroyo Park Drive, Valencia, CA 91355, US;  
 King, Clifford R, 3011 Mahalo Court, Salem, Oregon 97301, US;  
 Banning, Jeffery H, 484 NE 16th Avenue, Hillsboro, Oregon 97124, US;  
 Titterington, Donald R, 10185 SW Siletz Drive, Tualatin, Oregon 97062,  
 US  
 PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT  
 06904-1600, US  
 PAN 219782  
 AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat,  
 Maximilianstrasse 58, 80538 Muenchen, DE  
 AGN 100721  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 816448 B1 20030903  
 DS CH DE FR GB IE LI NL  
 AI EP 1997-304731 A 19970630  
 PRAI US 1996-671998 A 19960628  
 US 1996-672609 A 19960628  
 US 1996-672617 A 19960628  
 US 1996-672815 A 19960628  
 US 1996-672816 A 19960628  
 US 1996-678386 A 19960628  
 REP WO 9414902 A  
 GB 2294939 A  
 US 5507864 A

L74 ANSWER 14 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:23307 EPFULL  
 DUPD 20040901 DUPW 200436  
 TIEN Phase change ink formulation using a urethane isocyanate-derived resin  
 and a urethane isocyanate-derived wax.  
 TIFR Formulation d'encre a changement de phase en utilisant une resine  
 d'urethane et de cire derivee d'isocyanate.  
 TIDE Phasenaustauschtintenzusammensetzung basierend auf von Isocyanat  
 abgeleiteter Urethan- und Wachsharz.  
 IN Bui, Loc V., 23843 Arroyo Park Drive, Valencia, CA 91355, US;  
 King, Clifford R., 3011 Mahalo Court, Salem, Oregon 97301, US;  
 Banning, Jeffery H., 484 NE 16th Avenue, Hillsboro, Oregon 97124, US;  
 Titterington, Donald R., 10185 SW Siletz Drive, Tualatin, Oregon  
 97062, US  
 PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT  
 06904-1600, US  
 PAN 219782  
 AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat,  
 Maximilianstrasse 58, 80538 Muenchen, DE  
 AGN 100721  
 LAF English  
 LA English

LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 816447 B1 20030910  
 DS CH DE FR GB IE LI NL  
 AI EP 1997-304730 A 19970630  
 PRAI US 1996-671998 A 19960628  
 US 1996-672609 A 19960628  
 US 1996-672617 A 19960628  
 US 1996-672815 A 19960628  
 US 1996-672816 A 19960628  
 US 1996-678386 A 19960628  
 REP EP 665120 A  
 WO 9414902 A  
 GB 2294939 A  
 JP 64000181 A  
 US 5507864 A

L74 ANSWER 15 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:23306 EPFULL  
 DUPD 20040825 DUPW 200435  
 TIEN Phase change ink formulation using a urethane and urethane urea isocyanate derived resins.  
 TIFR Formulation d'encre a changement de phase en utilisant des resines d'urethane et d'urethane-uree derivees d'isocyanate.  
 TIDE Phasenaustauschtintenzusammensetzung basierend auf von Isocyanat abgeleiteten Urethan- und Urethanharnstoffharzen.  
 IN Bui, Loc V, 23843 Arroyo Park Drive, Valencia, CA 91355, US;  
 King, Clifford R, 3011 Mahalo Court, Salem, Oregon 97301, US;  
 Banning, Jeffery H, 484 NE 16th Avenue, Hillsboro, Oregon 97124, US;  
 Titterington, Donald R, 10185 SW Siletz Drive, Tualatin, Oregon 97062, US  
 PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT 06904-1600, US  
 PAN 219782  
 AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat, Maximilianstrasse 58, 80538 Muenchen, DE  
 AGN 100721  
 LAF English  
 LA English  
 LAP English  
 TL German; English; French  
 DT Patent  
 PIT EPB1 Granted patent  
 PI EP 816446 B1 20030903  
 DS CH DE FR GB IE LI NL  
 AI EP 1997-304727 A 19970630  
 PRAI US 1996-671998 A 19960628  
 US 1996-672609 A 19960628  
 US 1996-672617 A 19960628  
 US 1996-672815 A 19960628  
 US 1996-672816 A 19960628  
 US 1996-678386 A 19960628  
 REP WO 9414902 A  
 FR 1219438 A  
 GB 2294939 A  
 US 5507864 A

L74 ANSWER 16 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1997:23305 EPFULL  
 DUPD 20040421 DUPW 200417

TIEN Isocyanate-derived materials for use in phase change ink jet inks.  
 TIFR Materiaux a base d'isocyanate pour l'imprimante a jet d'encre a  
 changement de phase.

TIDE Von Isocyanat abgeleitete Materialien zur Verwendung in  
 Phasenaustausch-Tintenstrahl-tinten.

IN Bui, Loc V., 23843 Arroyo Park Drive, Valencia, CA 91355, US;  
 King, Clifford R., 3011 Mahalo Court, Salem, Oregon 97301, US;  
 Banning, Jeffery H., 484 NE 16th Avenue, Hillsboro, Oregon 97124, US;  
 Titterington, Donald R., 10185 SW Siletz Drive, Tualatin, Oregon  
 97062, US

PA XEROX CORPORATION, 800 Long Ridge Rd., P.O. Box 1600, Stamford, CT  
 06904-1600, US

PAN 219782

AG Gruenecker, Kinkeldey, Stockmair & Schwanhaeusser Anwaltssozietat,  
 Maximilianstrasse 58, 80538 Muenchen, DE

AGN 100721

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT EPB1 Granted patent

PI EP 816445 B1 20030502

DS CH DE FR GB IE LI NL

AI EP 1997-304701 A 19970630

PRAI US 1996-672816 A 19960628

REP WO 9414902 A  
 GB 2294939 A  
 US 5507864 A

L74 ANSWER 17 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1996:7 EPFULL  
 DUPD 19990915 DUPW 199937

TIEN Phase change ink printed substrate and method of production thereof.  
 TIFR Substrats imprimes avec une encre a changement de phase et leurs  
 procedes de fabrication.

TIDE Mit einer Phasenaustauschtinte bedruckte Substrate und Verfahren zu  
 ihrer Herstellung.

IN Titterington, Donald R., 10185 SW Siletz Drive, Tualatin, Oregon 97062,  
 US

PA TEKTRONIX, INC., P.O. Box 1000, Wilsonville, Oregon 97070-1000, US

PAN 463984

AG Lawrence, Malcolm Graham, Hepworth, Lawrence, Bryer & Bizley Merlin  
 House Falconry Court Baker's Lane, Epping Essex CM16 5DQ, GB

AGN 47878

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT EPA1 Application published with search report

PI EP 718119 A1 19960626

DS DE FR GB IT NL

AI EP 1996-100007 A 19901227

RLI EP 1990-314339 19901227 EP 435675 Parent Application

PRAI US 1989-457645 A 19891227

ABEN

A method for producing a light-transmissive printed substrate is provided. The substrate is printed with a predetermined pattern of a light-transmissive phase change ink which initially transmits light in a non-rectilinear path. When the pattern of solidified phase change ink is subsequently reoriented to form an ink layer of substantially uniform thickness, a printed image layer is formed which will transmit light in a substantially rectilinear path and is suitable for overhead projection.

In some instances the adhesion between the ink image layer and the substrate is not as high as is desired. This problem can result in delamination of the ink from the film under certain conditions. In order to overcome this problem, an intermediate adhesion promoting layer is introduced between the light-transmissive phase change ink and the base substrate. Thus, a substrate has been developed which maintains the high level of light transmissivity in the ink and substrate, while preventing adhesion failure in the area between the printed image and the base substrate.

(image, 0.1, abstract drawing)

L74 ANSWER 18 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1993:32980 EPFULL  
DUPD 19980805 DUPW 199832

TIEN Process for applying selective phase change ink compositions to substrates in indirect printing process.

TIFR Procède pour appliquer à des substrats par impression indirectes des compositions d'encre à changement de phase sélectif.

TIDE Verfahren zum Aufbringen von selektiver Phaseaustauschtinte zum Substraten durch indirekten Druck.

IN Titterington, Donald R., 10185 SW Siletz Drive, Tualatin, Oregon 97062, US;  
Bui, Loc V., 4694 SW Comus Place, Portland, Oregon 97219, US;  
Hirschy, Linda M., 6265 SW Arrowwood Lane, Portland, Oregon 97223, US;  
Frame, Harold R., 6357 SW Springhill Road, Gaston, Oregon 97119, US

PA TEKTRONIX, INC., 26600 S W Parkway Avenue, P.O. Box 1000, Wilsonville, Oregon 97070-1000, US

PAN 463987

AG Lawrence, Malcolm Graham, et al, Hepworth, Lawrence, Bryer & Bizley  
Merlin House Falconry Court Baker's Lane, Epping Essex CM16 5DQ, GB

AGN 47878

LAF English

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TL German; English; French

DT Patent

PIT EPB1 Granted patent

PI EP 604023 B1 19970813

DS CH DE FR GB IT LI

AI EP 1993-309424 A 19931125

PRAI US 1992-981677 A 19921125  
US 1992-981646 A 19921125  
US 1993-5970 A 19930119

REN PATENT ABSTRACTS OF JAPAN vol. 14, no. 281 (M-0986) 18 June 1990 & JP-A-02 086 453 (FUJI XEROX CO. LTD.) 27 March 1990;  
PATENT ABSTRACTS OF JAPAN vol. 17, no. 537 (M-1487) 28 September 1993 & JP-A-05 147 209 (RICOH CO LTD) 15 June 1993

REP EP 435675 A

EP 606490

A

L74 ANSWER 19 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1991:36848 EPFULL

DUPD 19960124 DUPW 199604

TIEN Phase change ink colorants and phase change inks produced therefrom.

TIFR Colorants d'encre de changement de phase et encres produites a partir de ses colorants.

TIDE Phasenaendernde Tintenfarbstoffe und daraus hergestellte phasenaendernde Tinten.

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PAN 463981

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PI EP 519138 B1 19960124

DS DE FR GB IT

AI EP 1991-312100 A 19911231

PRAI US 1991-716429 A 19910617

REP EP 262821 A

L74 ANSWER 20 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1990:42766 EPFULL

DUPD 19991020 DUPW 199942

TIEN Phase change ink printed substrate and method of production thereof..

TIFR Substrats imprimes avec une encre a changement de phase et leurs procedes de fabrication.

TIDE Mit einer Phasenaustauschtinte bedruckte Substrate und Verfahren zu ihrer Herstellung.

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PAN 463981

AG Lawrence, Malcolm Graham, et al, Hepworth, Lawrence, Bryer & Bizley  
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DT Patent

PIT EPB1 Granted patent

PI EP 435675 B1 19960911

DS DE FR GB IT NL

AI EP 1990-314339 A 19901227

RLI EP 1996-100007 19960102 EP 718119 Divisional Application

PRAI US 1989-457645 A 19891227

REP	WO 8808788	A
	CH 527263	A
	GB 544884	A
	US 4873134	A

L74 ANSWER 21 OF 21 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 1989:11827 EPFULL  
 DUPD 19990407 DUPW 199914

TIEN Substrate having a light-transmissive phase change ink printed thereon and method for producing same.

TIFR Substrat imprime avec une encre translucide a changement de phase et son procede de fabrication.

TIDE Mit einer lichtdurchlaessigen Phasenaustausch-Tinte bedrucktes Substrat und Verfahren zu seiner Herstellung.

IN Titterington, Donald R., 10185 S. W. Siletz Drive, Tualatin Oregon 97062, US;  
 Anderson, Jeffrey J., 16509 S. E. 34th Way, Camas Washington 98607, US;  
 Rise, James D., 7900 S. W. Brentwood, No.3, Portland Oregon 97225, US;  
 Jaeger, Charles Wayne, 16151 S. W. DeLine Court, Beaverton Oregon 97007, US

PA TEKTRONIX, INC., Corporate Headquarters, 26600 S.W. Parkway, Wilsonville, Oregon 97070-1000, US;  
 SPECTRA, INC., Etna Road, Hanover, New Hampshire 03755, US

PAN 463989; 1036491

AG Liska, Horst, Dr.-Ing., et al, Patentanwaelte H. Weickmann, K. Fincke, F.A. Weickmann, B. Huber, H. Liska, J. Prechtel, B. Boehm Postfach 86 08 20, 81635 Muenchen, DE

AGN 7801

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LAP English

TL German; English; French

DT Patent

PIT EPB1 Granted patent

PI EP 355342 B1 19980415

DS DE FR GB NL

AI EP 1989-112211 A 19890704

PRAI US 1988-236490 A 19880825

REN Database WPIL .sctn. Derwent Publications London UK AN 84-314794 (51) & JP-A-59196285 (Mitsubishi Paper Mills) (07.11.1984);  
 Database WPIL .sctn. Derwent Publications London UK AN 85-095240 (16) & JP-A-60042091 (Canon KK) (06.03.1095)

REP	EP 353979	A
	GB 544884	A
	GB 1545466	A
	GB 2142579	A
	US 3170393	A
	US 4745420	A

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